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CHAPTER ONE
BACKGROUND, PROBLEM IDENTIFICATION AIMS

1.1   INTRODUCTION

Universities worldwide are the highest academic institutions distinguished from other institutions of higher learning by their key features of tuition, research, knowledge dissemination and academic freedom. Bligh (1990:160) justifies academic freedom on the assumption that academics research and test ideas at the frontiers of knowledge not yet visited by others. The research function of the university is based on the assumption that academics are competent to conduct research. Research is also a lecturer variable since lecturers teach research methods and supervise students' research projects. The job description of a lecturer requires conducting pure and applied research to solve community problems. These expectations require high levels of lecturer research competencies. Unfortunately, on the international front, researchers are often dissatisfied by the low levels of lecturers' research output in most academic institutions (Payne, 2003; Young, 2006; Ntiamoah-Baidu, 2008). Academics in Zimbabwe (Chikomba, 1988; Nherera, 2000; Zindi and Munetsi, 2008; Jingura, 2010) also express dissatisfaction on the current low level of university research output.

Moberly (1994) observed that universities in the United Kingdom (UK) failed to provide the moral, intellectual and spiritual revolution to match the scientific, technological and economic revolution taking place in their society. One can attribute that shortfall to limited applied research by academics. Ntiamoah-Baidu (2008:2) reported that all developing nations accounted for 22% of the world's share of Gross Expenditure of Research and Development (GERD). Africa accounted for only 0.6% of the GERD with South Africa's share representing 90% of Africa's contribution. Yet, Africa, a developing continent, offers many opportunities for research in response to challenges of hunger, disease, poverty and political instability. As a result, African governments are expected to allocate more to their GERD. In fact, the Zimbabwe (2012) millennium development goals provide a rich source for applied research. The Millennium Development Goals Report (2012:13) articulates eight goals: (1) Eradication of extreme poverty

and hunger; (2) Achieving universal primary education; (3) Promoting gender equality and empowerment; (4) Reducing child mortality rates; (5) Improving maternal health; (6) Combating HIV and AIDS, malaria and other diseases; (7) Ensuring environmental sustainability; and (8) Developing a global partnership for development. These are rich sources for applied and pure research covering all disciplines provided at a university.

Most newly established universities in Zimbabwe are invisible when issues of research excellence are tabled at continental and national levels. These newly established universities' research output is insignificant. Low research output motivated this study to investigate various ways for developing research competence among academics at higher education institutions using Mentors University (pseudonym) as a contextual case. This is important in Zimbabwe where very few human capacity development initiatives for research are implemented despite the call to lecturers 'to publish or perish' (Nherera, 2000).

This chapter presents the problem of low research output in Zimbabwe's sixteen universities focusing on Mentors University as a particular case. The inquiry was suited to a participatory action research design, guided by Pauro Freire's (1921-1997) belief that people can collectively solve their problems when empowered through appropriate knowledge and skills (Freire, 2000: 67). Empowerment is one of the millennium development goals set out by the Zimbabwean government (United Nations-Zimbabwe, 2012). Among others, it is expected that academics should be empowered to become competent in research. The emancipator philosophy includes the development of psychomotor and cognitive skills. As a result, this study used an action research design guided by qualitative and quantitative approaches.

1.2   INTERNATIONAL RESEARCH OUTPUT IN UNIVERSITIES

Ranking universities is an accepted phenomenon based on the human need to compare, compete and create bench marks for standards. Arguments against it can be motivated by the variations in expectations from ranking boards such as Thomson Reuters (2009) which identifies several university ranking organizations. Some of the organizations are:

1. The Central London Triple Accreditation Board which uses MBA programme indicators.
2. Times Higher Education which considers variables such as staffing, research output and citation of published work in other studies.
3. The Institute of Higher Education, Shanghai which considers the quality of education, faculty research output and the university's size.
4. Germany universities which apply publications by doctorate degree students for ranking.
5. Internet lab which considers web metric indicators such as size, visibility, popularity and the number of quality files on the web of the universities.

The variability of research measures makes it apparent that there is no validity and reliability in the ranking process and its findings. Since instruments and indicators which are used to measure research are not the same they cannot be viewed as reliable. To this effect the Zimbabwe's Council for Higher Education (ZIMCHE) is consulting with regard to proposals for monitoring teaching standards in universities, as well as determining the quality of research output and ranking its universities.

The Higher Education Evaluation and Accreditation Council of Taiwan (HEEACT) applies annual performance ranking of published scientific papers and journal article citation indexes from Thomson Reuters (2009). Irrespective of the ranking indicators used, research output is the main indicator on their intersection. Bruce and Andras' (2004) study revealed a positive correlation between the number of published papers, their citation Index and the UK Research Assessment Exercise (RAE). Their findings suggest that counting published research papers is a reliable indicator for rating research output by universities. It is silent on the impact factor of the journal in which the articles are published. Some of the ranking indicators, such as postgraduate students' publications, automatically exclude most newly established universities in Zimbabwe. Most have not yet started offering postgraduate degree programmes.

Although research output evaluation appraised the success of one department or university more than the other, studies by Chikomba (1988), Nherera (2000), Zindi and Munetsi (2008) and Jingura (2010) show that the level of research output in Zimbabwe's new universities is still low.

Several factors have been identified as militating against academics' research output. Pomfret and Wang (2003) report that the majority of economists in Australian universities had limited research published in refereed journals; hence their work was rarely cited. They attributed the low average research output to the fact that Australian academic economists do not consider research as part of their job. They suffer no penalty for failing to research and publish.

Although Zindi and Munetsi (2008) considered funding as a major obstacle to academic research and publication, Payne (2003) found that it increased the quantity of research output and decreased its quality. What is not clear here are the indicators of research quality which were applied. Low quality research negatively affects the rate of research citation and keeps the international rating level low. Kumar (2008) noted that Indian universities increased the number of research articles published between 2003 and 2004. They attributed it to the availability of the internet which facilitated academics' access to international journals. Although ICT is available in Nigeria, Onasanya, Shehu, Oduwaiye and Shehu (2010) revealed that many academics lacked training in the use of computers as a tool for effective teaching and research purposes. According to Ntiamoah-Baidu (2008), environmental factors, such as a shortage of senior level lecturers and researchers to mentor others and increasing demand for higher education resulting in an increased focus on undergraduate teaching at the cost of postgraduate teaching and research, lower lecturer research output. In Zimbabwe, the Education for All policy introduced in 1980, increased enrolments leading to some undergraduate classes having as many as a thousand students in one module. The huge teaching load can partly explain the lack of lecturer's publication record in newly established universities.

There are mixed views on the rewards attached to a lecturer's research and teaching respectively. Young (2006) reports that academics had the perception that compared to research and administrative tasks, teaching was accorded a low status. Bligh (1990:185) proposes the ratio of research: teaching: management = 40: 40: 20 respectively. Bligh's ratio suggests an equal weighting for research and teaching for the reward system. This may be considered appropriate by most lecturers whose teaching load and a huge number of students in their classes affect their research. However, university funding is related to the research output that lecturers are able to

generate. Research therefore has become a major priority for most higher education institutions since it generates a lot of money, hence the popular slogan of publish or perish. Academics promotions to senior levels also depend on the number of publications as well as the impact factors of their published work in refereed journals.

Although arguments for rewarding lecturers more for research than teaching are based on the assumption that research informs and enhances teaching, literature raises contrasting arguments. A study by Lindsay and Jenkins (2002) on undergraduate and postgraduate students' views on lecturers' research and their quality of teaching report both advantages and disadvantages. Students perceived the following advantages for lecturer involvement in research: (1) promotion of student motivation; (2) enhancement of knowledge currency, lecturer credibility and expert power; (3) improvement of lecturer competence in research supervision; and (4) development of lecturer enthusiasm and motivation. The following disadvantages were raised by the students against lecturers' research activities: (1) it reduces lecturer availability to students; (2) research time competes with teaching time; and (3) there is a high probability of the lecturer distorting the curriculum if research work is not in line with courses that the lecturer teaches. These findings from the UK suggest more personal gains for the lecturer to research at the expense of students who are the university's prime clients. The international trends provide an informed basis for examining the Zimbabwean context.

1.2.1   Research in Zimbabwe's Universities

My study is anchored in the understanding that research is every university's core business. The African Universities' Vice-Chancellors' Workshop (1984) emphasized universities' research functions when stating that "The fundamental function of Universities is the advancement of knowledge through research and publication" (Chikomba 1988:16). This is based on the assumption that lecturers have the skills to conduct research and publish quality articles.

Universities are ranked in the academic arena as a result of their lecturers' research output and publications. The list of Africa top 100 universities (2010) included only the University of

Zimbabwe. Out of the 16 universities in Zimbabwe at time of writing (2014), the University of Zimbabwe is the only one (ranked 38th) among the top 100 universities in Africa by Internet Web Metrics (2013). Out of the top 12 universities in Zimbabwe, Mentors University, the research site for this study, ranked number 8 out of 12. This ranking provides conclusive evidence to support that research output in Zimbabwe's new universities is still low.

Explanations for Zimbabwe's universities' low quantity and quality research output were inferred from different angles. Leong's (2006) study of 14 Asian Arts Education doctoral students from Australia, British and North American universities revealed that research supervisors did not mentor students to publish papers. Riley (1998) noted that agricultural scientists experienced difficulties in publishing agricultural research work due to weaknesses in biometrics and statistics. They were also ignorant of data analysis software packages. Majoni and Chidakwa (2003:104) found that "60% of the 2003 second semester Zimbabwe Open University (ZOU) students failed to complete their research projects." They attributed the problem to inadequate journals in ZOU's libraries to support student research work and inadequate supervisor guidance. One can deduce that the academic environment (library) and the human factor (lack of mentors) can be factors contributing to low lecturer research output in Zimbabwe.

Among other factors influencing academics ability to conduct research is the university research policy. Hill (2000) called for a clearly defined research policy highlighting the particular university's research agenda and priorities to focus institutional research efforts. However, this call is not explicit on the development of lecturer research skills (human factor). Besides lack of a research policy, funding was another problem. According to Chombo (2000), the solution is for lecturers to fundraise. Unfortunately, fundraising was not accepted by academic staff who argued that their business is to teach and not fundraising. Jingura (2010) suggested a university partnership with industries to increase industry donations for research. Although this is a viable option which is being used in both developed and developing countries, it could not be adopted in Zimbabwe as many   industries are closing down. Limited research is required by indigenous service providers who struggle to maintain the quality that they inherited from original operators.

Nherera (2000) identified two impediments to university research in Zimbabwe: lack of mentors and local journals. He observed that staff retention in most African universities was problematic. Graduates sent abroad for training left their university for the private sector or remained abroad. The scenario left new lecturers and teaching assistants without research mentors. In addition, local journals interested in research focused on Africa are limited. This claim contradicts the need for local research findings to be published locally for local implementation as a solution to local problems. Nherera (2000: 54) explained the pathetic situation when he said, "Most of the prominent international journals in which African scholars must, 'publish or perish' are in Europe or North America." Under these circumstances, Zindi and Munetsi (2008) found a high level of lecturer anxiety leading to emotional stress due to the demands for tenure requirements without supporting resources. Conflict of interest is also a factor contributing to low research output and poor lecturer research skills development (Chikomba, 1988; Hill, 2000; Nherera, 2000; Zindi and Munetsi, 2008). Similarly, Rottenburg (1987) acknowledges that preparation, training and upgrading of academics' competence in research does not receive special attention.

1.2.2   Research output at Mentors University (MU)

Mentors University (MU) was established as part of the recommendations of the Chetsanga Commission Report (1995) to upgrade technical colleges into degree awarding institutions in Zimbabwe. According to Nherera (2000), Mentors University began operations in 1999 under the auspices of the University of Zimbabwe's technical degree programme. Mentors University Act, Number 15 of 2001 resulted in the institution operating as a fully-fledged university in 2002. MU was 12 years old at the time of writing (2014). Thus, it is a relatively young university with a lecturer complement derived from the mother institution, the University of Zimbabwe.

According to Mentors University's (2005-2015) strategic and business plan, key result area number two is "Quality Action Research". The priority rank of two out of six key result areas shows that Mentors University is focused on practical problem solving. This applied research focus was advocated for by Mugabe (in Chikomba, 1988:6) who proposed that Zimbabwean

universities' research should address escalating problems such as unemployment, food security, natural resources and sustainability. To this end, Chilisa and Preece (2005:104) advocated the reflexive dialectical critique and collaborative aspects of action research. They tally well with Mentors University's entrepreneurship focus. Its strategic actions linked to action research include:

1. Appointment of a Research Board and Research Director. As a new university, this requirement was necessary.
2. Reviewing and upgrading the quality of teaching, learning and research. If this order has any link to priority, it should be reversed to research, teaching and learning at university level because research informs teaching and learning.
3. Establishment of a feedback system and tracer studies to keep the university informed about the performance of its graduates and employer expectation. (This is a quality control measure).
4. Engaging in market research to maintain relevance of programmes to the needs of the community (entrepreneurship focus).

These action plans provide rich sources of research areas for lecturers. In fact the strategic actions encompass the three requirements for lecturer development: research, teaching and community development. I inferred that the omission of lecturer research competence programmes on Mentors University's action plans was based on the assumption that lecturers already have the requisite skills.

The implementation of the action plans above, started by the formation of a research committee of senate headed by the research director. It was tasked with the responsibility for implementing the research policy of the university and driving the research agenda. In particular, the research committee of senate is responsible for:

1. Developing and implementing the universities' research policies;

2. Allocating the university research budget to schools/institute on an annual performance rated framework;

3. Supervision and monitoring the use of research funds by schools/institute;

4. Mobilising of resources for all matters related to funding and material requirements for research;

5. Managing and allocating any funds such as trusts, endowments and other funds bequeathed to the university for research purposes;

6. Assessing all proposed researches by schools /institutes and individuals for fundability and conformity to university research agenda;

7. Reporting annually to senate on the research output of individuals and schools/institute;

8. Providing necessary support to create an enabling environment for all research activities in the university.

Of interest is the observation that all the above functions focus on financial controls. They are silent on the development of lecturer research skills; hence this study is not funded by Mentors University research or staff development funds.

By 2012 Mentors University had four schools to cater for Zimbabwe's technological and economic development areas in engineering, agriculture, hospitality and tourism, business management, entrepreneurship and an Institute of Life-long Learning. Student enrolment stood at around 9 000. After the brain-drain motivated by the 2006-2009 inflation, Mentors University had an academic staff complement of 89 lecturers and 152 teaching assistants in 2012. The brain-drain attracted those with high qualifications, such as a doctorate as well as publications in accredited journals. Consequently, most new universities in Zimbabwe have lecturers with masters' degrees and assistant lecturers with junior degrees teaching large classes at undergraduate level.

1.3   STATEMENT OF THE RESEARCH PROBLEM

Lecturer research output at Mentors University is very low. The university is invisible on the global arena in terms of lecturer research output in the form of published articles in accredited journals. Despite the existence of a research board, research director, opportunities provided by the strategic plan, "Not more than three articles are published per year in most of the newly established institutions. There are also very little research projects which are underway" (Jingura, 2010). Out of 241 academic staff in 2012, three professors, two senior lecturers and 15 lecturers were tenured. There appears to be no provision in place to develop lecturer research skills for publications. In the light of the preceding discussion the following main research problem was observed.

1.4   THE MAIN RESEARCH PROBLEM

How can the research competences of academics in higher institutions be developed with special reference to Zimbabwean higher education? This main research question is addressed by the following sub-problems:

1.   What factors influence lecturers' research output in new universities in Zimbabwe?
2.   What is the research policy in Zimbabwe's higher education institutions and structures that exist to support lecturer research skills development?
3.   What model can be deduced from the existing competence development models for the development of lecturer research skills?
4.   What are the experiences of academics implementing the suggested model of lecturer research skills at Mentors University?
5.   How can the refined model contribute to the professional development of academic research competences in higher education institutions in Zimbabwe?
6.   What recommendations can be made to improve lecturers' research competencies development practice?

1.5   AIMS OF THE RESEARCH

In view of the research problem, the following aims guide the present research:

1.   Investigate factors influencing lecturer' research output in new universities in Zimbabwe.
2.   Examine the research policy and its implementation in Zimbabwe's higher education institutions.
3.   Deduce a model from an evaluation of the models for the development of research competencies for academics in higher education in literature.
4.   Evaluate model implementation through participatory interventions by capturing participants' experiences and competence as shown by their research output after the "Academics research competence development programme".
5.   Refine the suggested model for the development of research skills among academics in new universities in Zimbabwe.
6.   Suggest recommendations to improve lecturers' research competency development practice.

1.6   RESEARCH METHODOLOGY

1.6.1   Research Design

The research design for this study basically consisted of two parts, the literature review and empirical investigation. It was guided by the normative study model. According to Routio (2007), normative models are used for describing the existing problems and defining improvements to the object of study. A normative research project proceeds through four successive stages, namely:

1.   Evaluation of the initial stage to understand the problem in context and defining the need for improvements. This can be done through baseline surveys.

2. Analysis of relationships and possibilities to change, wherein a literature study is conducted to provide guidelines.

3. Synthesis of a proposal for improvement. This could be a model formulated and intended for application to solve the problem.

4. Evaluation of the final state of the model through its application in context.

1.6.2 Preliminary Literature Review

Efforts to develop research competence of academics in higher institutions require an extensive literature review for an understanding of adults as learners, philosophy of emancipating participatory methodology and action research. These theoretical underpinnings of the current study called for a thorough literature review using desk research. Sources such as Carrillo (2007) and Fernandez (2007) are important for Paulo Freire's (1921-1997) empowering philosophy forming a strong basis for participatory action research. Academic authorities in adult education such as Krupp (1981), Rogers (1986), Dennis and Kirk (1990), Jackson (1992), Honey and Mumford (2000), provided a strong theoretical understanding of adult learners. Mbigi (1997) and Earley and Weindling (2004) propose a basis for strategies for effective learning in a social environment.

Guiding principles on communities of practice and how it is applied are provided by Lave and Wenger (1991), Wenger (1998), Ragins and Kram (1999), Lesser and Stork (2001) and Wenger (2007). Since the problem demands a methodology for skills development, perspectives of mentoring are provided by Kram (1985), Carter and Lewis (1994), Clutterbuck and Ragins (2001), Klasen (2002), Johnson (2007) and Wright-Harp and Cole (2008).

Studies by Bluma (2007), Hemmings and Hill (2009) and Kiani and Jumani (2010) on the internet provided a starting point for research skills development models. A review of this literature was supplemented by journals and research policy documents from different universities for a balanced view of local and international trends in research.

1.6.3 Empirical Inquiry

Qualitative and quantitative approaches employed data gathering techniques such as participant observations, focused group discussions, self reporting and in-depth interviews to explore the levels of lecturers' development of research competences and their experiences. Chisaka (2008) suggests that questionnaires can be used to survey individual and group views of a phenomenon in qualitative research. McCracken (1988: 17) hints that "Qualitative research does not survey the terrain but mines it". This perception focuses on understanding rather than generalisation of findings from qualitative studies.

In this study qualitative and quantitative research approaches were deemed appropriate after considering that the aspect being studied (research skills development) is a synthesis of different perceptions of the participants. More so, the problem of lecturer low research output in the form of publishable papers in a particular university requires an understanding rather than the generalization of findings. In this case purposive sampling was used to select participants affected by the problem as rich sources of the variable. Findings from literature suggest a model which can be used but not generalized to all universities. Also critical is the fact that the researcher was involved in the study. Researcher involvement as a participant is not a characteristic of quantitative research design. The study requires quantitative methods to analyse and present data with precision.

At face value one can classify action research under qualitative and quantitative research designs respectively. Neuman (1997:24) supports both the qualitative and quantitative intersection classification; action research develops knowledge from experience. It is applied research. White (2005) regards it as a social interpretive enquiry whose solutions are based on participants' views and interpretations. This study seeks solutions to problems in the real world of educators (Verma and Mallick, 1999:12). According to Lancaster (2005:123), action research is an approach which can apply document analysis, surveys, model/intervention implementation and programme evaluation interviews. This suggests application of quantitative and qualitative techniques although at the periphery.

From the debate, Lather (1986) and Morley (1991) placed action research under the paradigm of praxis. They argue that "Praxis is the art of acting upon the conditions one faces in order to change them" (O'Brien, 2001:4). Greenhood and Levin (1998) describe action research as participation, grounded in experience and action oriented. Kermis in Hammersley (2007:172) points out that "Praxis has its roots in the commitment of the practitioner to action in a practical situation." The objects of research are actions (practices). They concur that knowledge is derived from practice and practice informed by knowledge in an ongoing process. The study's data sources, namely practice, focus on ethno-methodology and data collection by participating in the actions and practice. The participation calls for a combination of qualitative and quantitative approaches.

I am convinced that action research is under a paradigm of praxis due to its emphasis on action. Its appropriate methodology is participatory action research. Engel and Schutt (2005) define participatory action research as a type of research in which the researcher involves some organizational members as active participants throughout the process of studying an organization. The goal of participatory action research is to make changes within the participants themselves and their organization.

There are three key elements of participative action research. First, there is the incorporation of the researched in a collaborative effort of knowledge creation that will lead to empowerment and a solution of a real problem affecting them. Secondly, participants can be involved in four dimensions: problem identification, solution suggestion, implementation and evaluation. Thirdly, participants own and benefit from the study.

Participatory action research was used in studies on internet-based collaborative work groups for skills development by Lau and Hayward (1997). Comstock and Fox (1995) applied it for studies on computer conferencing skills development and Chisaka (2008) found it ideal for studies on ability grouping in Harare secondary schools in Zimbabwe. The current study extends the application of participatory action research to the development of research skills in higher education.

1.6.4 Selection of Participants

The population of this study consisted of lecturers on the academic staff list of Mentors University in 2013. Participatory action research involves all affected in solving the problem (O'Brien, 2001:5); hence different data collection and sampling techniques were applied (Maykut and Morehouse, 1994). Taylor and Bogden (1984) support purposive sampling since participatory action research seeks understanding and not generalisation of findings. Chisaka (2008) suggested an emergent sampling design which incorporates new cases depending on availability and which are rich sources of the variable.

Selection of participants for this study was carried out in two stages. Firstly, a purposive sample of 260 lectures was drawn who participated in the survey of factors influencing lecturer research output at Mentors University. This was an important environmental diagnostic intervention. Secondly, a purposive sample of five lecturers was selected. These volunteered to participate in the study interventions up to the end when they produced a research report for possible publications. These participants were novice researchers who had no prior publications, were due for tenure and had asked for the extension of their probationary period by another year. Their employment status rendered them rich sources available for this study in 2013. They were affected by the problem (no publications). Their need to solve their problem enhanced their commitment to the study.

1.6.5 Data Gathering

According to Nyawaranda (2003:6), action research is naturalistic, practical and full of the unexpected. This attribute calls for a flexible guide for data collection. In this study data were collected in six phases. The first stage was desk research or document analysis for the establishment of problem trends, models and strategies for developing research competences among academics in higher institutions. Following this, the empirical investigation was carried out in two phases: a survey of factors influencing lecturers' research output in the university to understand the context of the problem and an analysis of policy documents and informal

mentoring model implementation. The last phase of data collection comprised programme evaluation interviews. These methods entail that participation experiences contribute valuable data to the study.

1.6.6   Data Analysis

The data analysis plan in qualitative studies is fluid, depending on the type and method of data collection. In this study both quantitative and qualitative techniques were applied to analyse and present findings. Action planning data were analyzed according to McNiff (1998:1) who suggested describing the problem and citing evidence to support it. In this study, participants' research skills distributions and possible factors explaining their responses are analysed for the problem and evidence extracted from surveys and interviews to support the account. Implications of the responses for the practice (actions) to be taken are examined through focused group discussions for group views.

Quantitative data from surveys were analyzed using descriptive statistics (mean, mode and median) and Spearman's coefficient (rho). Hypothesis testing for the mean difference was carried out using an ANOVA test at 5% level of significance. Frequency tables, percentages and bar graphs were applied to show research skills distribution and factors influencing its output. Qualitative data from *action, evaluation* and *learning* stages were analyzed using Gay and Airasian's cycle (2000) cited by White (2005:186). These are: (1) familiarizing with the data through reading progress reports and identifying main themes; (2) examination of data to provide descriptions of settings, participants and activities, inferring the influence of context to findings; (3) classifying data into emerging themes; and (4) interpreting and synthesizing data into conclusions.

1.6.7   Instruments

The researcher and participants are the main instruments for data collection through self-evaluation of action and self-reports. Questionnaires were used for the surveys of factors

influencing lecturer research output at Mentors University. Documents, such as Mentors University research policy, were analyzed for research supporting activities. Research peer review reports from the Chief Editor of the Zimbabwe Journal of Technological Sciences were analyzed for common weaknesses of a research paper. Participants' research papers and action learning reports were analyzed for points of weaknesses and strengths. The informal group mentoring model is an instrument for developing lecturer research skills through mentoring.

Questionnaires were *validated* through pilot testing, analyzing the results and integration of participants' recommendations. Reports are validated by reading minutes of captured views of the previous meetings and asking for participants' amendments, approval and adoption as a correct record of the proceedings.

1.6.8   Study Limitations

This study's findings can be limited by the small sample size and being confined to one institution as is expected in case studies whose main aim is to understand how the intricate variables are influencing the phenomenon. Case studies seek not to generalize; hence findings cannot be applied to other institutions without adjustments to cater for environmental uniqueness. The researcher is an employee in the case organization. This limited critical observations. In qualitative research, researcher's knowledge of the environment is a strong basis for evaluating findings hence a necessity. An external assistant researcher can be ideal for a second opinion. Input from participants and their verification of findings is also important. Reviewers' comments provide independent evaluation of participants' research output. In fact it is a reliable measure of research paper quality by international standards.

1.6.9   Ethical Considerations

The following actions were taken to ensure that ethical requirements were realised in this study.

1.   Consultation of university authorities for the study acceptance and support.

2.   Cooperation with volunteer participants who committed their time for this study.
3.   Ensuring that all participants influence the action decision by cultivating collaborative attitudes and facilitating interactive meetings.
4.   Observing participants' anonymity by use of pseudonyms and presenting findings as group data for surveys.
5.   Informing participants of the nature of the study from the survey stage.
6.   Accepting responsibility for maintaining confidentiality.
7.   Acknowledging participants with their permission in all publications emanating from this study.

1.7   DEFINITIONS OF TERMS

In this study, the following terms convey these meanings:

Academics refer to university employees in the rank of assistant lecturers, lecturers and professors. These are tasked to teach and expected to research and publish.

Research output encompasses all activities that require knowledge and ability to research. These include delivery of lectures in research methods, presentations of proposals, supervision of students' research and published research.

Higher Education Institutions is confined to universities due to their requirements of research output from academics.

Research is a procedure to discover new information. It differs from scholarship, which is the interpretation of already known information.

Research competences are those skills which enable academics to discover new information as a result of systematic investigations.

1.8   STUDY CHAPTER DIVISION

The study is divided into six chapters:

1.   *Chapter One:* The study background introduces the problem of low research output in universities in Africa generally and Zimbabwe in particular. It outlines the problem, aims and the research design.
2.   *Chapter Two*: A critique of competency development theories for lecturer research skills.
3.   *Chapter Three*: An exploration of mentoring models and methods.
4.   *Chapter Four*: Description of empirical inquiry (Mentoring model implementation).
5.   *Chapter Five*: Study findings and participants' experiences.
6.   *Chapter Six*: Study conclusions and recommendations.

1.9   SUMMARY

This study was motivated by the observation that lecturers in new universities in Zimbabwe have low research output in the form of publishable papers. This contradicts the expectation that university lecturers should research and publish in order to be tenured and promoted. A brief overview of relevant literature explained the problem of lecturer low research output from different angles. The chapter further outlined the research problem, identified the aims of the research and gave a brief description of research design. A specific case for this empirical inquiry is Mentors University in Zimbabwe which started operating as a fully-fledged university in 2002. It was formerly a technical teachers' college. Direct implication for this development is that the case university's administrative and structural foundation is that of a teachers' college and not a university. A notable difference is that teachers' colleges place emphasis on teaching and not research while universities place their emphasis on research which informs teaching.

The next chapter examines the conceptual and theoretical perspectives on the development of human resources skills.

CHAPTER TWO
CONCEPTUAL AND THEORETICAL PERSPECTIVES ON COMPETENCY DEVELOPMENT

2.1   INTRODUCTION

The purpose of this study is to find ways of developing lecturer research competency as shown by their publishable research papers. The study was motivated by the low research output at Mentors University. According to Jingura (2010:1), "over 90% of the academics at Zimbabwean universities are not engaged in research activities that could have impact on education, he further observes that most of these academics also failed to publish articles in peer reviewed journals. Although Mugabe (2013:9) acknowledges Mentors University's efforts to improve lecturer research output quantitatively by increasing the number of senior academics from one to six professors and from two academics with doctoral degrees to twenty, he underscores the fact that lecturer research output is still low. Mugabe (2013:9) attributes the low lecturer research output to a lack of proper research mentoring. However, he fails to elaborate on what "proper mentoring" entails and/or how it can be done. Mentors University has no policy on lecturer mentorship for research skills development. It can also be inferred that since the number of experienced and better qualified academics has only increased recently, the expected increase in published articles has not yet materialised (as of time of writing, October 2014).

In this chapter, specific emphasis is given to an appraisal of Mentors University research policy and how it contributes to the development of lecturer research competency and quality of lecturer research output. This is followed by a critique of theories of adult learning since the affected population (lecturers) consists of adults in a university where they are expected to publish or face career stagnation.

The study is guided by the community of practice theory complemented by participatory action research tenets. A critical review of four seminal works by Lave and Wenger (1997), Brown and Duguide (2000) and Wenger (1998) contextualizes theoretical issues. The key components of

communities of practice namely, the domain, community and practice explained by Wenger (2007) are critiqued for an understanding of the communities of practice theory in the context of lecturer competency development.

This study would be incomplete if this chapter overlooks the apprenticeship models for competency development. These naturally unfold the origins of mentoring from Kram's (1983) PhD work and her phases of the mentoring relationship. A critique of the different steps in mentorship by Kram (1985), Kram and Huggins (2012) and Scandura (1998) is carried out to build the theoretical frame for the study. Specifically, the analytical lenses will focus on different mentorship stages and possibilities for the application of mentorship as a model for lecturer research competency development at Mentors University.

2.2 CONTEXTUAL ANALYSIS

2.2.1 Mentors University Context

Mentors University (MU) in Zimbabwe was established as part of the recommendations by the Chetsanga Commission Report (1999) to upgrade technical colleges into degree awarding institutions. According to Nherera (2000), Mentors University began operations in 1999 under the auspices of the University of Zimbabwe's technical degree programme. Mentors University Act number 15 of 2001 resulted in Mentors Technical Teachers' College operating as a fully-fledged university in 2002. Teachers' colleges emphasize development of teaching skills more than research hence lecturers recruited from the college into the university lacked research skills as required by all universities worldwide. The newly established university did not have a research policy since it was previously a college of education. This newly established university became part of the University of Zimbabwe, and as such adopted its research policy. Most of its personnel were also transferred from the University of Zimbabwe and as such it operates in similar fashion with only a minor change in the name of the institution.

Mentors University's (2005 – 2015) strategic and business plan, key result area includes "Quality Action Research". Such an applied research focus was advocated by Chikomba (1988:6) who stated that Zimbabwe's university research should address escalating problems such as unemployment, food security, natural resources and sustainability. The reflexive dialectical critique and collaborative aspects of action research cited by Chilisa and Preece (2005:104) tallies well with Mentors University's entrepreneurship focus.

Mentors University's 2010 strategic actions linked to action research include:

1. Appointment of a Research Board and Research Director;
2. Reviewing and upgrading the quality of teaching, learning and research;
3. Establishment of a feedback system and tracer studies to keep the university informed of the performance of its graduates and employer expectation. (This is a quality control measure);
4. Engaging in market research to maintain relevance of programmes to the needs of the community (entrepreneurship focus).

These action plans on paper provide rich sources of research areas for lecturers. A closer look at point (2) above indicates the ordering of activities which is teaching, learning and research. One can conclude that teaching is overemphasised at the expense of research activities. The researcher inferred that the omission of lecturer research competence development programmes on Mentors University action plans was based on the assumption that all lecturers have the research skills. On the contrary, Mentors University does not appear on the university ranking lists based on research outcomes (Mugabe, 2013).

2.2.2   Criteria for Ranking Universities

All universities worldwide aspire to be ranked as best universities when compared to their peers to enable them to attract students and improve their image and reputation. One may wonder how this 'world class university' status is achieved or simply put: How are universities ranked? For

example, what makes the University of Cape Town rank top in Africa and Harvard University in the US rank first in the world?

There are a number of organizations (e.g., Ranking Web of Universities, Academic Ranking of World Universities, The *Times Higher Education* World University Rankings) that rank universities. These organizations apply four aspects namely research, teaching, international outlook and applied innovation. This study will focus more closely on the research variable because it is this study's problem, its priority and need for improvement by intervention.

According to The European University Association (2013), research variables considered for ranking universities include volume of published papers and the frequency of their citations. Unfortunately the majority of journals from Zimbabwe are not yet on available online. This affects both their visibility, frequency of citation and impact factor. A workshop for journal editors held in South Africa in 2012 focused on how to upload journals on the African Journals On-Line (AJOL, 2012). That was a measure to improve African journals frequency of citation and impact factor. Citation is the first item on criteria for ranking universities. Mugabe (2013) summarised the criterion for ranking universities as shown in Table 2.1.

Table 2.1: Criteria Used for Ranking Universities

Item	Description	%
Citation(Impact Factor)	Research influence	30
Research volume, income and reputation	Reputation survey (18%), Income/staff (6%), Scholarly papers/staff (6%)	30
Teaching	Reputation survey (15%), Staff-student ratio (4.5%), PhDs/undergraduate degrees awarded (2.25%), Institutional income/academic staff (2.25%)	30
International outlook	International students/ total students (2.5%), International academic staff/academic staff (2.5%), Scholarly papers with one or more international co-authors (2.5%)	7.5

Industry-income innovation	Research income from industry/academic staff	2.5

The majority of new universities in Zimbabwe fail on the international benchmark required for ranking. Most of these newly established universities fail to attract international students and academics to their universities. For a university's research output to be recognized for ranking anywhere in the world, it should be published in quality journals with high impact factors (Amin and Mabe, 2000). A high impact factor is difficult to attain in Zimbabwe due to some of the following factors. First, online journals in Zimbabwe in which they have to compete for publication are limited. Second, internet facilities to increase the frequency of research citation are also limited. Universities' research policies should address the need to develop lecturer research skills, avail facilities for publishing research output and increase their research citations.

2.3   MENTORS UNIVERSITY'S RESEARCH POLICY

Evaluating the university research policy is an important aspect of research policy formulation and implementation because it affects that organisation's research output. In a university, the development of lecturer research skills can be considered a human resources management issue deserving critical attention from the university's administration. Its impact is felt by individual lecturers more directly than the institution. From this angle, this study on the development of lecturer research skills, regards university research policy evaluation as a critical component in the analysis of the university context. Under these circumstances, policy evaluation helps to identify and describe latent factors affecting lecturers' research output in that university.

According to Dye (1984: 3) public policy is, "whatever government chooses to do or not to do." Subscribing to this definition leads us to regard a university research policy as whatever the university chooses to do or not to do with regards to conducting research in that university. This is a double pronged inclusive perception since action and inaction are equally weighted policies. Zvobgo (1997) justifies this view by stressing that inaction can have as great an impact on society as the action itself. For example, overlooking the allocation of funds for research is as

important as having written statements on allocating no research funds, although no discussion or meeting was held to decide not to allocate those research funds. In other words, policy can have a formal and an equally effective informal version.

A formal perspective by Hanekon (1987) regards policy as a comprehensive framework of intent and for inter-action. It is usually documented. This view encompasses university research themes, objectives and research agenda as policies. Hanekon (1987) hints that under normal circumstances, policies are not rigid, they are jellylike in nature. They are fragile promises between groups. They are hypothetical and subject to revision, alteration or scrapping if not satisfactory. The assumption here is that there is consensus between policy formulators and beneficiaries on policy satisfaction.

Two implications derived from Hanekon's (1987) policy characteristics are: first, formal formative and summative policy evaluation is a necessity for constant feedback into the policy cycle. Second, to capture all changes, research policy evaluation should be done according to the phases corresponding to those changes. For this study, the research policies can be seen in three chronological phases, corresponding to the three phases identified in the university's leadership policy followed from 2002 to 2014. First are research policies of the University Research Board from 2002 to 2009. Second is the short period 2009 to 2011 influenced by the Research Capacity Building policy. Last but important is the 2011 to 2014 Research and Resources Mobilization policy. Boundaries between these phases are not watertight since they were all drafted by the same university. Each change that each leadership policy brought to research issues is evaluated in terms of its influence on lecturer research output through publications.

Erway (2013) proposed that a university research policy can include the following:

1. Copyright of research
2. Ethics in research
3. Good research practice
4. Misconduct in research

5.   Priority areas of the university research

6.   Publication and funding of research from the university

7.   Research data ownership between funding agents and the researcher or students.

8.   Partnership with industry for cost sharing

9.   Sponsorship of postgraduate research

These requirements provide good benchmarks for the evaluation of the context of university research policy. What is evident is that Erway's (2013) attributes are silent about the development of research skills. The omission calls for the current study seeking ways of developing research skills.

Verma and Mallick (1999) suggest that policy impact evaluation is a research process in which researchers and practitioners have dovetailed exchange of ideas and expertise. Implied in this is the fact that data for policy impact evaluation should be collected from those involved in the policy formulation and implementation. Kapfunde (2004) regards policy impact as an actual change in behaviour or attitudes that results from a policy action or inaction. This concept of policy impact evaluation focuses this study on lecturers' views, behavioural changes and attitudes in response to changes in research policy modifications in the university. Putman (1985) and Anderson (1995) expect evaluative activities to be on the policy formulation, objectives and implementation stages. There appears to be a need to have a common understanding of the players in research policy in Zimbabwe.

2.3.1   The Research Council of Zimbabwe

The Research Council of Zimbabwe (RCZ) is a statutory body established in terms of the Research Act of 1986. It is mandated to:

1.   Promote research;

2.   Publicize Zimbabwean research at a global scale;

3.   Create research data base expected to provide an integrated and comprehensive collection of data from Zimbabwe;

4.   Supervise research at national level;

5.   Advise government on issues of research for sustainable development.

The first point, "promotion of research" does not specify how this should be done. The Research Council of Zimbabwe formulates national research agenda and communicates it to higher institutions through a call for papers. It then organizes research expositions at national level. It does not have a significant influence on university research operations. Neither does it organize workshops for lecturer research skills development. The researcher inferred that (RCZ) research policy benefits those who are already able to do research.

Out of the sixteen universities current in Zimbabwe (2014), only four are registered as research co-operations with the Research Council of Zimbabwe. These are University of Zimbabwe, Harare Institute of Technology, Africa University and National University of Science and Technology. Mentors University, the case for this study, is yet to be incorporated at national level. Its research policies are still governed more at university level than at national level by the university research board.

2.3.2   University Research Board Policy (2002 to 2009)

Mentors University Research Board was established in 2002 when the university became a fully fledged university. Its activities were regulated by the Research Board Procedures and Guidelines from the University Research Act of 1986. This was also a requirement for Mentors University under its first Action Plan (Nherera, 2000).

The Research Board was composed of a Chairperson who was an academic staff member elected by the Research Board. The Vice Chairperson was also an academic staff member elected by the Research Board. Other members include a member of the University Council appointed by council, a representative of each of the schools and the institute. The university bursar was the

secretary of the research board. The university librarian, Vice Chancellor and Pro-Vice Chancellor were ex-officio members. This structure placed the bursar in a strategic position to control funds allocated to the research board.

The Research Board's terms of reference were:

1.   Administration of research grants in the university;
2.   Support research projects for academic staff members, students and research fellows;
3.   Fund travel expenses for staff members' participation in national and international conferences;
4.   Screening research proposals submitted by staff for funding.

These terms of reference mentioned nothing on the development of lecturer research skills. I concluded that these terms of reference adopted from the mother University of Zimbabwe were not appropriate for a developing university.

2.3.3   Research Capacity Building Policy (2009 to 2011)

The Research Director, Jingura (2010:1), noted that academic productivity in the form of lecturer research output at Mentors University was low. Mentors university's academics appeared to be under-involved in community engagement projects. As such, Jingura's (2010) focal point was research capacity building. This research policy was aimed at, "…strengthening research capacity and increasing research outputs of relevance to the country's strategic economic sectors." Jingura (2010:2). There were four major outputs expected from this plan:

1.   Capacity development in research and establishment of research networks for Mentors University;
2.   Academics trained in scholarly publication and acquire academic engagement skills;
3.   Academics acquire community engagement skills and competences;
4.   A research plan developed for Mentors University.

The Research Capacity Building policy addressed lecturers' needs and seemed poised to promote lecturers' research output from grassroots. It was expected to help lecturers develop two critical components to meet their promotion criteria namely, research and community service. Unfortunately the Research Director's term of office was short-lived. He was redeployed to quality assurance in 2011. His policy did not go beyond marketing for beneficiaries' buy- in and project co-ownership, hence it was not implemented.

2.3.4   Research and Resources Mobilization Policy (2011 to 2014)

The university appointed Professor Mugabe to head the Research and Resources Mobilization department. He formulated a different research policy. It appears that Mugabe did not consult Jingura's endeavours to design a university research policy. Mugabe's (2013) research policy was aligned with the university's mission statement and vision.

The 2013 vision for Mentors University was "to be a world class centre of excellence for technological innovation and entrepreneurship." Its mission is "to produce innovative graduates, create knowledge, enhance entrepreneurship and provide community service through quality teaching, training and technologically oriented research." This vision and mission stresses the need for experts in applied research. While the words, "innovative graduates, knowledge creation and entrepreneurship" are impressive, Jingura (2010:1) and Mugabe (2013:9) are in agreement that Mentor University's research output is low.

There are a number of reasons for Mentors University's low research output. Mugabe (2013: 9) highlighted three major factors. The first factor is that there are no experienced academic researchers to support research in the University. The second factor is that there appears to be very little laboratory equipments in the University to assist in conducting research especially for natural sciences. However, this factor does not explain low research output in the social sciences. Additionally, knowledge as to the different types of equipment to be purchased in the various departments is limited. The third but equally important is that the funds that are allocated for

research are limited given that almost all the research taking place in the University is expected to be funded by the University.

The first two factors point at the human skills deficiency. As a result Mentors University suffers from very high competition in applying for international funds from donors. The lack of experienced researchers with the requisite Curriculum Vitae reflecting a wide range of post doctoral fellows and publication experience in the university. Surprisingly there are no initiatives to develop lecturer research skills to date. Such a gap calls for the current study seeking ways of developing lecturer research competencies.

Mugabe, the Director of Research and Resources Mobilization, resolved the problem of low lecturer research output by setting the university on a massive recruitment of senior academics (those with PhDs) from 2010. This move implied that the university research policy abandoned the development of lectures research skills development for the recruitment of academics with doctoral degrees. These appointees are expected to drive the University's research agenda. Mugabe (2013: 11) expects these senior academics to mentor/supervise postgraduate students who are expected to play an important role in University's research and community development. This perception focuses senior academics' role on developing students' research skills at masters' level rather than lecturer research skills. One can conclude that Mentors University's research policy aims to develop students' research skills and assumes that lecturers are capable of conducting research. The lack of vision in developing academic research skills and the realisation that without developing the academics' research competency skills, the university may not attain the world class status as a research institution prompted this research. Although Mentors University calls for its lecturers to register for PhDs, academics are not funded for their studies. These academics are instead marginalized through the implementation of the Senate Research Committee (SERC) resolutions whose terms of reference are discussed in the next paragraph.

Senate Research Committee's Terms of Reference

The Directorate of Research and Resource Mobilization is responsible for the administration, management and co-ordination of research and resource mobilization in the University. The goal of the research wing of the Research and Resource Mobilization Directorate is to organize, implement and promote the University's research and knowledge exchange strategies through the Senate Research Committee's terms of reference shown in table 2.2 below:

Table 2.2: Senate *Research Committee's (SERC) Terms of Reference*

1. Development and implementation of the University's research policy
2. Allocating the University research budget to Schools/Institutes
3. Supervising and monitoring the use of research funds by Schools/Institutes
4. Mobilization of resources for all matters related to funding requirements for research
5. Managing and allocating any funds as trusts and endowments bequeathed to the University for research purposes
6. Assessing all proposed researches by Schools/Institutes and individuals for research ability and fundability and conformity with set standards and University code of best practice
7. Reporting to Senate on the research outputs through standard deliverables such as annual reports
8. Oversight of all central issues related to research
9. Providing necessary support to create an enabling environment for all research activities in the University pertaining to such issues as, research contracts, and budgets.

These terms of reference are also silent on the development of lecturer research skills. The first point, "implementation of the University's research policy" assumes that there is a research policy in place. Assessing all proposed researches (point 6) assumes that lecturers know how to write a research proposal. The terms of reference focus predominantly on material resources management at the expense of human resources development. The implementation of SERC's terms of reference brought several changes in the research arena at Mentors University. Implemented corrective measures are evaluated below in terms of development of lecturer research skills.

Table 2.3: *Factors Accounting for Low Research Output at MU and Corrective Measures*

Factor for limited research	Corrective measure being implemented
Shortage of senior researchers (in 2010)	The University had 1 Professor and 2 PhD holders in 2009 and the number has since grown up to 6 Professors and 25 PhD holders by 2013
Lack of international collaboration (in 2010)	MU has hired a number of PhD holders and Professors who are expected to have connections all over the world which is expected to improve international collaboration
Lack of proper research mentoring	The senior academics in the various departments should mentor junior academics
Lack of adequate financial resources	The University now has the critical mass of senior academics so it should be able to compete and write good quality proposals for donor funding which can improve on funding for research and buying equipment
Inadequate research facilities	The university is buying research equipment to equip laboratories – that are being refurbished.
Poor remuneration and Incentives for research	Although at 40% of the region, government salaries for universities have improved and this has helped to retain and attract staff from outside the country, incentives for research are still low.
Increasing demand for higher education (at the expense of post graduate training)	MU has started postgraduate degrees in its areas of mandate namely Masters degrees in Post-harvest and Strategic Management. The University has also initiated a number of M Phil's and D Phil's.
Lack of the Directorate of research and resource mobilization	University research agenda has been defined and the directorate is co-coordinating proposal development for donor funded research to improve financial resources for research.
Lack of the Quality assurance and postgraduate studies	To assure quality of degree programmes and co-ordinate postgraduate training.

Although lack of research mentoring is mentioned in Table 2.3, it is not clear whether it is for lecturers or students at postgraduate level. Its corrective measure, "The senior academics in the various departments *should* mentor junior academics" sounds wishful thinking. It contradicts Klasen's view (2002:7) which postulates that the mentor is neither necessarily more senior nor more powerful than the mentee. The word 'should', though carrying a mandatory connotation, has no force to monitor its implementation. In addition, the employment contract for PhD holders does not include mentoring of junior lecturers for research skills development as one of its key areas. It all funnels down to the policy as a paper document with no implementation focus.

Megginson and Clutterbuck (2009) regard a mentor as someone who has experienced a great deal and is willing and able to effectively share some of this learning with others. Unfortunately, some of the academics with PhD degrees are still novice researchers without a publication record. In addition the university did not conduct orientation workshops with PhD holders to explain to them their expected role of mentoring junior staff members. Since none volunteered as a mentor, I assumed that they did not have the will to mentor others. In fact, one Ph D holder reported that although he was willing to mentor others in writing for publication, his workload did not give him enough time to do so. He taught 456 undergraduate students, 143 masters' students and supervised 10 students at masters' level. I noted that environmental factors such as large classes affected the development of lecturer research skills development programmes.

The contribution of research to lecturer tenure cannot be overlooked. At Mentors University this contribution is emphasized in the Human Resources (HR-25 FORM) SECTION 3: **Criteria for Tenure: Extract from Ordinance 3 of 2010 – Section 7.5**

3.1   The criteria for granting of tenure shall be:
     (a)   Satisfactory Teaching shall mean a minimum score of forty five (45) points
     (b)   Satisfactory Research shall mean a minimum score of twenty (20) points from five relevant refereed publications with a minimum aggregate **impact factor of 0.5.**

(c)   Satisfactory University Service shall mean a minimum score of forty (40) points

NB: For one to be tenured, they should at least meet the minimum for each of the three.

The requirement for journal impact factor compelled lectures to subscribe to online journals which have high impact factors. This move threatened local journals which are not yet online. It is expensive to research and publish. In addition, the need to acquire a doctorate forced lecturers to concentrate on doctoral studies on the expense of research for publication (Hill, 2000).

What emerges is the fact that Mentors University's strategies to become a world class university through improved lecturer research publications in journals with high impact factors, is silent on the development of those lecturers' research competencies. Although lecturer research skills for publication can be developed through mentoring, the latter is absent. Works by Nherera (2000), Ntiamoah-Baidu (2008) and Chinamasa (2012) also do not explain how mentoring can be done. Implied in this problem is the fact that lecturers need to be assisted to develop skills to research and publish in refereed journals. The deficit could include cognitive analytical skills to identify researchable problems and manipulative and technical skills to write convincing research reports for their studies to be published in journals with a high impact factor.

Boyer (1987) suggested that during the development of research skills, four types of intellectual scholarship should be cultivated for individual research competencies.

1.   The scholarship of discovery which provokes disciplined investigative patterns of research for the purpose of generating new knowledge.
2.   The scholarship of integration: This enables the researcher to draw together and bring new insights to bear on previous research. The integration can be found during literature review and reporting of new findings when the researcher fits own research within gaps in the larger intellectual patterns of knowledge. It may also include interdisciplinary collaborative and integrative studies.

3. The scholarship of application of research-based knowledge to real life problems in ways responsive to social issues and concerns. It starts by the researcher being able to identify real life problems within the community and application of action research.
4. The scholarship of teaching which is reflected during knowledge dissemination through public presentations and publication of research findings in reviewed journals.

What is important here is to find ways which develop the four intellectual scholarships to solve the problem of lecturer low research output in the form of publications. It is important to consider that the development of lecturer research competency is much more than a human resource management function. Desk research shows that literature has dove-tailed perceptions of competency. DuBois (1993) portrays it as an underlying characteristic in life. Spencer and Spencer (1993) concur and add that it is casually related to criterion-referenced effective performance on the job or situation. In this study the criterion is simply a publishable paper. Since the literature alluded to Nherera (2000), Ntiamoah-Baider (2008), Chinamasa (2012) and Mugabe (2013) is calling for the mentoring of lecturers in research, the next section explores the concept of mentorship for research competency.

2.4   CONCEPT OF MENTORSHIP RESEARCH MODEL

Kram (1985) conveys the idea that mentorship is a relationship in which a more experienced person helps guide the career of a less experienced member navigating the world of work. Knight and Trowler (1999) consider mentoring as the academic socialization and a collegial process that helps shape the academic community. A mentor in this case is someone who offers guidance, support and constructive criticism. Levinson (1979) reiterate that the mentor's functions include guidance, counselling and sponsorship. These three pillars offer support the technical know-how (guide), the emotional development (counselling) and resource allocation (sponsorship). This concept of mentorship shows that if lecturers are to develop research skills through mentorship, they need guidance, counselling and resources.

Mentorship can be distinguished from other relationships in that mentoring is a developmental relationship embedded within the career context (Kram, 1985). Its focus is on career development. This is a career function whose purpose is to develop the mentee's technical knowhow. It prepares the mentee for hierarchical advancement within the organisation. In this study lecturer research skills development is a career function leading to lecturer tenure and promotion. One can note that career development depends to a large extent on the mentor's position and influence in that organization. The mentor's position can influence his or her sponsoring of mentee's advancement, positive exposure and visibility. Mugabe's (2013) proposal for academics with PhDs to mentor other lecturers in research could be based on the fact that Mentors University regards them as senior, influential and able to access resources to sponsor their mentees.

Packard (2003) proposes a second concept of mentoring as a social process for the informal transmission of knowledge. This is described by Kram (1985) as its psychosocial support function. It is focused on the development of the individual mentee's personal self-worth. It relies on the quality of informal emotional bonds of trust between the mentor and mentee. This calls for the mentor to apply more informal than formal communication and personal resources for the effective development of psychosocial mentorship relationship.

The word 'model' conveys different concepts to different people in different fields. In research, models can be physical, graphical or conceptual descriptions shown by diagrams and arrows. While physical models such as a toy are tangible, conceptual models may not be although they can be visually represented by diagrams and verbal descriptions. For example, Tall (1991) talks of models of learning, which are actually verbal explanations or theories of how students internalize mathematical concepts. This example enables one to classify mentorship relationships as both conceptual and qualitative models. They are articulated through the use of imageries and vivid descriptions of how mentees relate to their mentors in their day-to-day interactions for the development of the mentee's research skills.

A mentorship model then is a systematic representation of a mentoring process in a simplified form. It shows how two or more individuals with different skills levels interact for the development of the emotional and technical aspects of the less skilled participant. Hansman (2002) reports that mentors have been unquestioningly and uncritically accepted as fundamental to foster learning in the workplace, advance careers, help new employees learn work-place culture and provide developmental and psychological support. Moody (2004) adds the need for the mentor to be an important resource in mentee's self-improvement and open doors for the mentee through exposure to such forums as research conferences and exposition gatherings. Mentoring then is a promising model for the development of lecturer research skills.

Verma and Mallick (1999:6) conclude that models are 'tools' used for illustration, construction and testing of theories. They are applied in research to guide the researcher. They identify variables in the study and how they are connected. For instance, a lecturer research mentorship model can show mentoring activities and how the mentor and mentee can be linked at any particular time of the research skills development relationship. A researcher can manipulate specific unit variables such as the number of mentees per mentor to modify or alter its contribution and investigate the nature of its quantitatively or qualitatively different result. This study's variables can be identified from the research process models such as Punch's model discussed in the next paragraph.

2.4.1   Punch's Research Model

For the researcher to evaluate skills development models for the construction of a lecturer research competency model, there is need for a learning and research process model to guide the process. Since the doctoral study is addressing a real problem in its own way, Melville and Goddard (1996) classify it as creative research. According to Melville and Goddard (1996: 4), creative research involves the development of new theories, procedures and inventions. It is much less structured and cannot be pre-planned. It includes both practical and theoretical research as illustrated in Punch's (2006) research model below. Creative research is about the

discovery or creation of new models, theorems and algorithms. It mainly proceeds by trial and error and trial and success which are perfected in the cycles during the implementation stage. Punch (2006:17) proposed an illustrative simplified model of the research process without a hypothesis. I reproduced it here for discussion and evaluation in terms of lecturer research skills development.

Punch Research Model
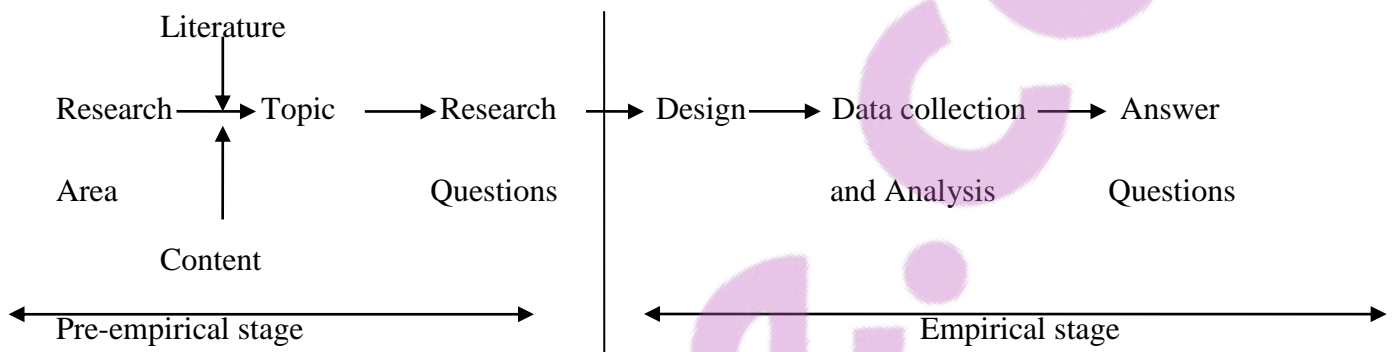
Figure 2.1: Punch's Research Model (Adopted from Punch, 2006:17)

Punch's research model guides this study in that it has two parts: the pre-empirical and empirical stages. The pre-empirical stage can be considered as the literature study from which this theoretical frame is derived. The empirical stage covers the field work when the proposed model is implemented for verification. These two stages form the research area's literature and content inputs for lecturer research skills development. More importantly the model evaluation provides the foundation for structuring a model required at Punch's research design stage. The evaluative lenses are focused on model simplicity, assumptions, illustrativeness and applicability to the context of developing lecturer research skills in Zimbabwe's universities.

Paralleled with the community of practice theory, the research area can be regarded as the domain, literature search, design and data analysis forms the practice referred to by Love and

Wenger (2007). Considered under participatory action, the research area forms the problem that lecturers intend to solve.

In the lecturer research mentorship model for the development of lecturer research skills, variables which researchers can manipulate include group activities, group composition, technology used and mentors. These can also influence such output as lecturer confidence, writing or computer skills for searching the internet web, data analysis or use of e-mail.

Walton (1999) explains that conceptual models are much more than pictures and images, they expose people's understanding of the world variables and how they influence others. Good models are expected to have three identifiable components: an information input, process and output. In this study mentors and mentees' needs for developing research skills form the common input. Mentorship is the model process while the mentees' publishable research provides the quantifiable output. While mentorship relationships are part of the output, they are qualitative variables.

Krishnaveni (2008) suggested that an evaluation of models needs to be guided by three key features of the model namely:

(1)   Simplified model assumptions;
(2)   Boundary or initial conditions of the model which must be identified;
(3)   The range of model applicability must be understood.

Although Krishnaveni (2008) identifies indicators for assessing models, Wagner and Berger (1985) suggest that a conceptual model cannot be assessed empirically because it forms the basis for empirically testable research questions. A conceptual model can only be assessed in terms of its instrumental and heuristic value. In this study the lecturer research mentorship model will be instrumental for lecturer research skills development. It must answer the question: How can research mentors and mentees interact to develop lecturer research skills for publishable papers?

Typically, this happens when assessing the mentorship research strategies, programmes and the results it creates.

Literature debates (Hoyle, 1986; Boyer, 1987 and Dessler and Varkkey, 2009) find it difficult to place competency development appropriately on the training and education continuum of personnel development. Appropriate placing has important implications for the formulation of a research mentorship model to use for lecturer research competence. Flippo (1961) proposes that training is a psychomotor or dexterity development process while education is a cognitive function. It increases the powers of observation, analysis, integration, understanding, decision making and adjustments to new situations. These are important qualities of a practical researcher that the research mentoring model activities should provoke to increase lecturer research output. It is important to consider that lecturers are adults demanding the application of adult learning theories as discussed in the next paragraph.

2.4.2   Lecturers as Adult Learners

My own experiences as a tutor and research project supervisor at Masters' degree level has confirmed Salih's (2003) observation that adult learners are not big children. Therefore, pedagogical skills (teaching and learning of children) are not an accurate substitute for andragogy (helping adults to learn). There is need to understand lecturers as adult learners through an analysis of their characteristics and learning strategies.

Mentors and tutors for adults should derive guidance from Knowle's (1984) andragogical model. It is based on four main assumptions with possible instructional implications discussed below:

1.   Lecturers as adults bring in theories and concepts of research and research experiences from previous encounters with the problem. They also have different conceptions of mentoring and their roles and responsibilities as mentees. This assumption calls for initial interactive activities in which mentees' experiences, fears and frustrations with

regard to conducting research and writing for publications are talked about openly as a basis for new knowledge.

2. Adults need to know the purpose of their learning before they invest effort and resources in the form of time in the learning process. This implies that the mentor should share the objectives of the research mentorship model program on the first encounter with mentees. In addition, the model should address real problems affecting lectures.

3. Adults are used to making their decisions in everyday life hence require self-direction over the nature, content and approach to their learning. Research mentors can allow lecturers to suggest meeting times and research within their areas of specialisation using their preferred research methodology.

4. Adults learn more effectively when dealing with tasks and problems they perceive to be real, related to and arising from the demands of their everyday lives. This assumption dictates the use of community of practice and participatory action research to solve the problem of low research output.

Rogers (1986:15) classifies adult learners into four learning character categories as activists, observers, theorists and experimentalists. From this angle Reynolds (1994) suggests the use of groups for the following reasons:

1. Motivational reason which considers that people and specifically mentees learn more effectively when they are involved and enjoying themselves in groups.

2. Educational reason which considers that people learn from each other and their teachers. It is critical in this case where mentees have varied experiences in research. Knowledge is constructed and reconstructed as a social process in a social context.

3. Ideological reasons which acknowledge that groups provide collective inquiry processes for a society based on democratic principles, particularly universities which operate largely on committee systems. In this case grouping prepares mentees for participation in work task groups, project teams and meetings.

Dennis and Kirk (1990) confirm that adults are motivated by experimental learning cycle in which they observe others (do); think and discuss performance (review); identify key techniques (learn); and try them out (apply). This process also satisfies Carr and Kemmis's (2001:85) four phase learning cycle described as observe, plan, act, and reflect. All the cycles described include the development of the cognitive and psychomotor skills. I was persuaded thus to think of group mentoring as an appropriate model for developing lecturer research skills. Its activities in each cycle and assignments should emphasize interpretive thinking and application. They can facilitate hands-on group and individual learning actions required by community of practice (Kram, 1985), participatory action research (Freire, 2000) and andragogy (Knowle, 1984; Reynolds, 1994 and Rogers, 1986).

Other characteristics of adult learners which cannot be ignored include the observation by Forgarty and Pete (2007) who describe them as diverse, problem-oriented active learners. In addition Krupp (1981) suggests that adults need hands-on exercises. These characteristics call for the use of tasks in which individual and group tasks are used to develop practical research skills. This problem calls for the application of community of practice theory.

2.5   COMMUNITY OF PRACTICE THEORETICAL FRAMEWORK

2.5.1   Concept of Communities of Practice

The *communities of practice* (Cop) theory refer to a learning relationship developed by a group of people attempting to solve their day to day problems. According to Wenger (2007), it is important to be guided by communities of practice theory because it informs educators working with groups of learners concerned with lifelong learning. In this study the research participants are a group of lecturers, hence this theoretical framework which describes how adult participants can develop research skills. Communities of practice rely on face-to-face meetings as well as web-based collaborative environments to communicate, connect and conduct community activities.

Wenger (1998) suggests the communities of practice theory of learning and criticized the following assumptions about learning by adult learners in general:

1. Learning is something that individuals do as a specific act with well defined boundaries. This contradicts the notion that learning boundaries are pervious and porous as propounded by Freire (1970), Nyerere (1981) and Mulenga (1991).

2. Learning has a beginning and an end. This assumption contradicts concept of lifelong learning advocated by Knowles (1984), Rogers (1986) and Salih (2003).

3. Learning can be separated from the rest of the learner's activities. This also contradicts concepts of lifelong learning and participatory action research suggested by Freire (2000), Nyerere (1981) and Mulenga (1991).

4. Learning is a result of teaching. This also does not explain how people learn from their experiences. It is also not supported by Gherardi, Nicolini and Odela (1998: 279) who emphasized that every practice is dependent on the social processes through which it is sustained and perpetuated, and that learning takes place through the engagement in that practice.

Wenger (1998) suggests that learning in communities of practice is a social activity resulting from experiences of participating in daily life activities. It involves a process of learner participation and engagement in that community of practice. The engagement results in learners constructing conceptual identities in relation to the skills required by the communities. One can deduce that learning under communities of practice is based on problem solving. It is contextualized and depends on the nature of the problem and situation. In such a situation, mastery of knowledge and skill requires newcomers or learners to move towards full participation in the socio-cultural context of that community.

Lave and Wenger (1991) considered learning knowledgeable skills, like research report writing for publication, as the transformation of participants' conceptualization of the problem and skills required to solve the problem in a socio-cultural practice. Since there are variations within cultural practices, knowledgeable skills for communities of practice then are culture bound.

Learners identify themselves with a particular language, tools, action and practice which make sense to that community. Brown and Duguide (2000) sum up the learning process as increasing learner participation in communities of practice. Freire (2000) calls it skills emancipation. It concerns the whole person acting in his/her real world. The whole learning process forms the renewal of a set of relations demanded by the community. One can be considered to have learned when there is skills equilibrium between the learner's skills and those skills required by the community task. Lesser and Stork (2001) noted that communities of practice provide enriched learning and higher motivation to apply what participants learn. In this study, communities of practice are expected to motivate lecturers to apply skills that they will develop for conducting research and writing articles for possible publication in accredited journals.

Wenger (1989) observes that in communities of practice, participants define competence to include three critical variables:

1. Understanding what matters. This is a social and psychological variable answering the "what?" and "why?" Understanding what the enterprise of the community is and how it gives rise to a perspective of the world as perceived by that community.
2. Being able and allowed to engage productively with others in the community. This is a social variable satisfied by the mentor who promotes the mentee by exposure.
3. Using the repertoire of resources that the community has accumulated through its history of learning experiences.

Wenger (2007) rationalizes that communities of practice are facilitated by collective learning which results in practices that reflect both the pursuit of individual enterprises and the attendant of social relations within a community created over time through the sustained pursuit of a shared enterprise. The key term 'collective learning' can be satisfied by the use of more than one mentee or more than one mentor for the lecturer research mentorship programmes. Wenger (1989) emphasizes that members of a community of practice are brought together by common activities learned through their mutual engagement in the activities. Mutual engagement calls for informal techniques based on action consensus.

Communities of practice can also be considered as groups of people who share a common concern or passion for something they do and learn how to do it more at the margins (Wenger, and Berger, 1985). Actually communities of practice are formed by people who engage in a process of collective learning in a shared domain of human endeavour. Collective learning stressed here was also considered by Rogers (1986) as a critical ingredient for adult learners' effective learning.

The discussion so far shows that for learning to be guided by communities of practice it needs to: (1) include more than one participant; (2) be based on a real community problem; (3) be carried out in a social context with minimum member cohesion and (4) benefit both the individual participant and the organization or community in which it is being done. A more formal analysis by Lave and Wenger (1991) noted that community of practice can be distinguished from any other group of learning activities by having the domain, community and the practice, which are discussed in the next paragraph. Community of practice can be defined as a group of people that coheres through sustained mutual engagement on an indigenous enterprise. The group process creates a common repertoire for the particular group.

2.5.2   Characteristics of Communities of Practice

The community of practise is characterised by the domain, community and practice discussed in the next paragraphs.

2.5.2.1 The Domain

In any communities of practice the learning activities, the subject or problem which members intend to solve is called the domain. Membership to this domain implies a commitment to the domain (Kram, 1983). Participation in any community of practice results in shared competences which distinguish members from non members. Participants value their collective competence and learn from each other, hence a need for group mentorship. Wenger (2007) suggests that membership can be on a voluntary basis.

This suggestion implies that participants for this study must be volunteers. Specifically those affected by the problem and committed to liberate themselves by solving the problem. More informal communication can be used to develop effective relationships. At times it is an individual lecturer's assessment of his/her research skills and their adequacy in terms of research for publication which compels the lecturer to join that mentee community. Those lecturers who consider themselves unable to research and write articles for possible publication in accredited journals are the most likely volunteer participants for the study. They commit themselves to the domain (mentoring for research publication) due to the common need (research skills development).

2.5.2.2 The Community

The word community in communities of practice does not entail a mere co-existence in an identifiable group or socially visible boundaries (Brown and Duguide, 2000), but refers to participation in an activity system in which participants share understandings concerning what they are doing and what it means for their lives and for their communities (Wenger, 1998). Its purpose is to make work environments friendly. What is key in the community is that interaction between members should result in the development of a learning relationship between its members (Wenger, 2007). A collegial relationship bound by an equal expert power base and focused by a common purpose should develop. Participants establish a sense of joint enterprise and identity.

Participants enter the community with different skills levels. Their engagement in joint activities, discussions and shared information enable participants to learn from each other. According to Cox and Morris (2004), the community acts as a living curriculum for the learner. Grundy (1987) indicates that what is to be learned (curriculum content), how it is learned (methodology) and why (the rationale) for the trade are taught in the context of the task or problem. Evans (2006) notes that the community plays the role of realigning participants' competences. There is a recursive collective influence between the community and the participant. A participant with new ideas reshapes the community by sharing with the community. Language and tools also

dictate a change in participants' skills. For example, vocabulary like 'highlight, copy and paste' used in research and copying of materials from the internet changes participants' skills. Participants' ability to undertake larger or more complex activities through cooperation bind participants together and help to facilitate the development of relationships and trust, binding those participants into a community. Kram (1985) classifies the development of trust as the psychosocial function of mentoring. At the centre of the community is the nature of the tasks and practice.

2.5.2.3 The Practice

Members of a community of practice are practitioners (Wenger, 2007). They are bound together by shared tasks that bring them together. In this study, the practice is defined by the development of research skills for publication. The practice is regarded by Wenger (1998) as an identity making process. It is more than a cognitive entity making process. It involves the whole person, with a body, heart, brain, relationships and aspirations. The practice defines members from none-members (Smith, 1999). The practice defines the language, tools and competencies required. Amit (2002) observes that participants in the community of practice develop interpersonal relations to interpret their relationship beyond the formal interactions. More important is the fact that there is an intimate connection between knowledge and activity. Problem solving practice and learning experiences are central processes in the practice (Lave and Wenger, 1991). Educational practice in this case involves informed and committed action. An analysis of the characteristics of community of practice reveals characteristics similar to those involved in traditional skills development models such as apprenticeship and mentoring. Communities of practice are important for skills development as explained in the next paragraph.

2.5.2.4 Importance of Communities of Practice

Communities of practice form an important group skills development model for organizations because they:

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1. Connect people who might not otherwise have the opportunity to interact frequently and share expertise in anyway.

2. Provide a shared context for people to communicate and share information, stories, tools and personal experiences in a way that builds understanding and insight.

3. Facilitate dialogue between people who come together to explore new possibilities, solve challenging problems and create new mutually beneficial opportunities.

4. Stimulate learning by serving as a vehicle for authentic communication, mentoring and self-reflection.

5. Capture and help diffuse existing knowledge to help people improve their practice by providing a forum to identify solutions to common problems, processes and to evaluate best practices.

6. Introduce and cultivate collaborative processes to groups and organizations as well as between organizations to encourage free flow of ideas and information.

7. Help people organize themselves around purposeful actions that deliver tangible results benefiting individuals and organizations.

8. Generate new knowledge to help people transform their practice and accommodate changes in needs and techniques.

The section below discusses the traditional skills development models to highlight their roles during implementation of mentorship for competency development.

2.6   TRADITIONAL SKILLS DEVELOPMENT MODELS

Apprenticeship and mentoring are classified as traditional models of skills development because they were used from the time people decided to pass their skills informally and formally from one generation to the other (Clutterbuck and Ragins, 2001). Before evaluating each of the models it should be noted that each model has undergone metamorphic evolution from its informal to the formal state that is documented today. This study is comforted by Wentling (1992) who observes that despite the metamorphic evolution, traditional models have retained their core characteristic of being trainer centred. The training staff-member designs the

objectives, content, teaching techniques, assignments, motivation strategies and evaluations. Their focus is the intervention by staff training. There is need for examining each of these models to understand their theoretical evaluation.

2.6.1 Apprenticeship

The Washington Labour and Industries Department (2009) defines apprenticeship as a structured system of hands-on training designed to teach highly technical skills. From this perspective, Grobler et al (2006) would classify it under training since its focus is on shop-floor operatives and not managers. This study is interested in the development of skills hence can be classified as hands-on training. In terms of the beneficiary population, research apprenticeship can be appropriate for lecturers who require assistance in the development of technical skills for writing publishable papers. Traditionally apprenticeship was designed to produce craft-workers who are fully competent in all aspects of their occupation in terms of knowledge, skills and proficiency on the job (Ryan, 2008). The development of technical knowledge and proficiency qualifies apprenticeship as a competency development model. What is not clear is how apprenticeship can be applied to develop lecturer research skills in new universities in Zimbabwe.

For it to be considered as apprenticeship, the apprentice (learner) should be attached and work with a practising expert for the purpose of acquiring professional competencies in a particular field. The main objective of apprenticeship is to develop mentee's skills. Dessler and Varkkey (2009) define apprenticeship as a structured process by which individuals become skilled workers through a combination of formal instruction and on-the-job training under the guidance of someone who is already an expert. Klasen (2002) note that guidance is more informal and provides a basis for the development of trust in mentoring. Attaching novice learner lecturers to seasoned researchers may work, however, novice lecturers may be used to help with menial tasks and not learn how to conduct research and also to write articles for possible publication in accredited journals.

Before technical industrialization, trades such as blacksmithing, building, carpentry and pottery were taught through home apprenticeship (Bright, 2014). The apprenticeship model was later applied to service skills development in areas such as teaching (Gateway Schools, 2014). Student teachers teach a real class of students under the supervision of a qualified teacher for the purpose of developing teaching skills. This shows that teaching practice attachment can be considered as a modified form of apprenticeship. In this case, apprenticeship is based on the assumption that the qualified teacher knows the environment, pupils and effective teaching methods for different learners in the classroom. Chauraya (2006) and Rwodzi, Muchenje and Bondai (2011) call such a partnership in education mentoring. Teaching by observing, reflection and doing is a critical analysis of the practice since teaching is a practical activity.

Universities have also adopted and adapted the apprenticeship model for the development of student research skills. Bluma (2007) suggests that apprenticeship is supported by the constructive approach to learning. Constructivists require students themselves to acquire knowledge, develop understanding, skills and competency under an expert's guidance. Lepatho and Jackson (2010) described the situation in which students conduct independent research projects in an individual faculty member's laboratory as a well established form of research apprenticeship providing independent research experiences. This discussion shows that some form of apprenticeship can be used to develop research skills.

While formal summative evaluation of programs is done at the end, the apprenticeship model emphasizes formative evaluation in the form of feedback for each stage. According to Krishnaveni (2008), an apprentice completes his/her apprenticeship when he/she demonstrates mastery of all skills and knowledge for that trade to the satisfaction of the trainer. In universities students (apprenticed in research) produce a thesis under the oversight of a research supervisor who should be satisfied before the corporate body of the university recognizes the student's achievement to be at the level of a doctorate (Rudestam and Newton, 2007). One can deduce that the research apprenticeship student's performance can be assessed as either satisfactory (s) or unsatisfactory (u) by the apprenticing promoter first. For this study on lecturer research

mentoring, participating lecturers' work can be assessed by peer reviewers before journal reviewers.

Lecturer research mentoring indicators, such as publishable research papers, provide a basis for the evaluation of research apprentices in this study. In addition Smith (1999) and Dessler and Varkkey (2009) concur that there are four pointers to be considered when evaluating training programmes inclusive of research apprenticeship and research mentoring:

1.   Reaction whose indicators include trainees' reactions to the program. It answers the question, did they like or considers it worthwhile? In this study participants can complete evaluation forms. Alternatively focus group discussion complemented by observation notes can capture participants' reactions.

2.   Learning-tests for the trainees to determine whether they learned the principles, skills and facts expected. In this study no formal tests will be administered. Participants will show their learning by presenting review comments and their publishable research papers to their peers and journals for peer review and publication.

3.   Behaviour checks whether trainees have changed as a result of the training. Aspects such as confidence presentations and oral constructive criticism of peers' work will reflect changes in participants' behaviour.

A critical analysis of the apprentice model reveals that, research apprenticeship is applied in universities for the development of students' research skills at masters and doctoral levels in a formal learning situation. It is not clear how research apprenticeship can be applied for lecturers who may not be compelled to participate as required when registered for a formal qualification. It would not be prudent to adopt the apprenticeship model without analyzing how apprentices learn and the tutor participates in the model.

Beetham Apprentice Tutor Involvement Graph
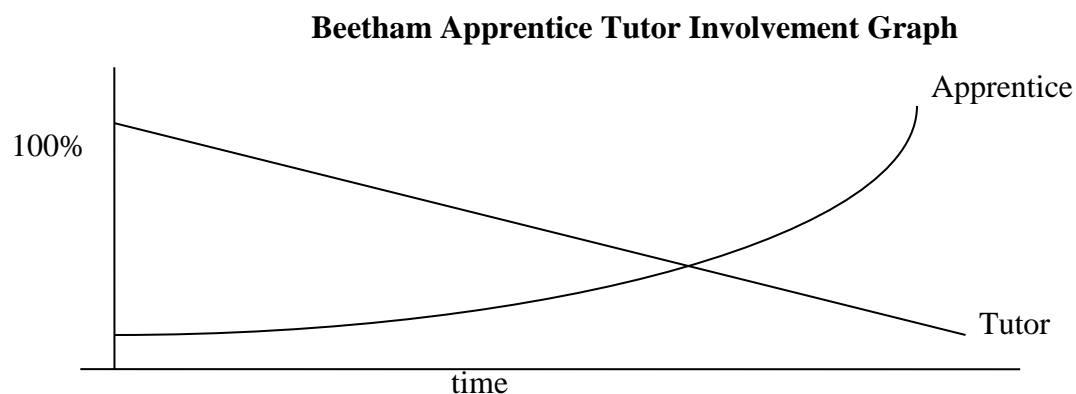
Figure 2.2: Beetham's Apprentice Tutor Involvement Graph

Beetham (2004) described the learning process of an apprentice by considering firstly, tutor involvement and then apprentice activities. This could influence mentor activities during lecturer research mentoring, hence it is important to evaluate. The graph shows that tutor involvement in the apprenticeship process decreases from 100% to 0% with time. Apprentice involvement increases as a result of observation, doing and reflecting. The assumptions here which can be questionable include these:

1. The apprenticeship learning process has a linear dependence. Once a concept or skill is taught and possibly demonstrated, it is done and tutor does not revisit it.
2. The learner is not making mistakes or facing challenges which require tutor intervention.
3. The model does not show apprentice involvement hence limited in explaining the interaction of the tutor and apprentice in the learning process.
4. Model illustrates the concept banking model in which tutor skills are all transferred to the apprentice. This contradicts Pauro Freire's (2000) theory which postulates that the teacher also learns during a teaching and learning process.
5. The model can mislead tutors if applied to lecturer research competency development in that a research tutor or supervisor can be required equally at the research problem identification, research design, data analysis and report writing stages.

Beetham (2004) describes the apprentice learning process as a series of actions and reflections illustrated in Figure 2.3 below.

Beetham Apprentice Wave Progression Schema
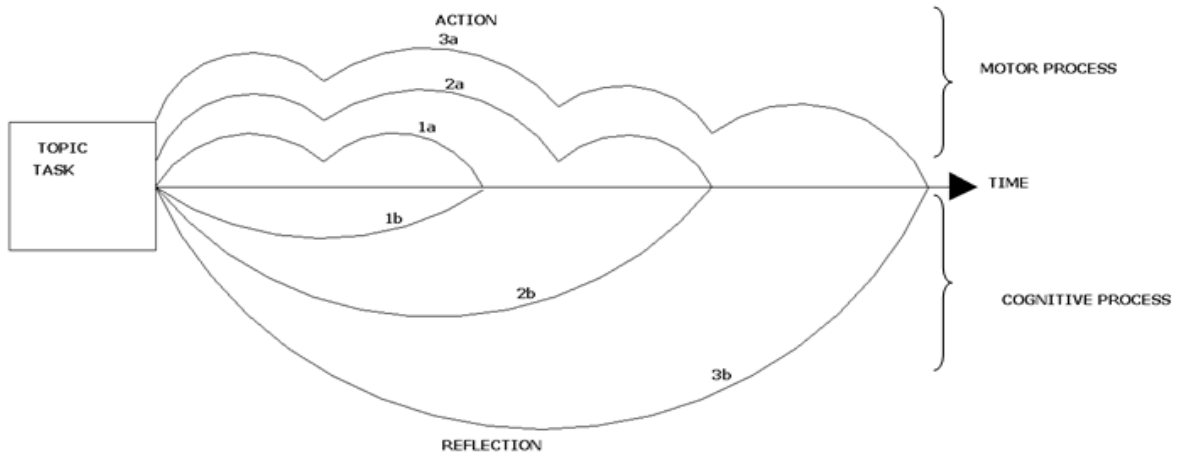
Figure 2.3: Beetham Apprentice Wave Progression Schema

The model illustrates that the apprentice learns in concept or task paired waves composed of action, a motor process and reflection which is a cognitive process. It can be considered under the practice stages of Wenger's (1985) community of practice stages or Kram's (1983) phases of mentor relationship. Each pair of waves results from observations of a task being performed by tutor, reflections, discussions, participation and feedback.

The success of observation by the mentee depends on a pre-observation discussion of what the mentor intends to demonstrate (objective). Pre-observation discussions also help the mentee focus on what is important. In the case of research findings presentation techniques, an observation guide is helpful. The mentor should also be an expert in practical demonstrations for observation to be an effective skills transmission method.

The action waves suggest that apprenticeship tasks are seriated. Action wave 2a depends on action wave 1a and reflection wave 1b. In the lecturer research mentoring model both the cognitive and motor skills waves are catered for by individual and group discussions infused in the process. In lecturer research skills development, action wave 1a could be the background of the study, wave 2a review of literature and wave 3a methodology.

Reflection is a mental activity which enhances understanding. It can be carried out by both the mentor and mentee. It must form the basis of the discussions in which the mentee seeks clarifications (Evans, 1994). A return demonstration can be the mentee's participation in challenging assignments. It also promotes reflection. The reflection waves could account for peer reviews and feedback considerations. Reflections can also be an individual learner's task when engaged in research assignments. Carrillo (2007) considers reflection on action as a collective evaluation process for solving real life problems hence a cognitive process. Since reflection evaluates the suitability of skills for specific tasks, one can consider it to be the community under community of practice. Reflections can be individual or group efforts. The mentor can reflect on the methods while the mentee can reflect on errors. The two can help each other through discussion feedback hence the need to include discussions in research skills development.

Feedback is a powerful tool for assessing a mentee's progress against set standards. It can be in the task or provided orally by mentee's peers through discussions. It involves feeding back the data to the mentee in a way that helps them clearly to identify their strengths and areas for further development. Ryan (2008) prefers feedback from different perspectives to enable the mentee to compare their self-assessment with the views of others. Good feedback should be created for the particular recipient. Guided by constructive criticism and encouraging comments. The key benefit of feedback to mentees is in how the feedback process is managed. The mentor can maximize key strengths as well as working to improve those areas where there are weaknesses.

Metodi (2007: 31) describes the learning process of a concept as a spiral process of understanding. Preliminary understanding of say, qualities of a good paper is shaped by view A and reshaped by view B, C and D feedback for deeper understanding at the centre. Challenging mentees with questions that compel them to consult is an important ingredient in adult learning especially for research skills development.

Metroid's Centripetal Description of Concept Understanding Model

Figure 2.4: Metodi's Centripetal Description of Concept Understanding Model
(Source: Metodi, 2007:31)

This model can describe the understanding of concepts involved in research mentorship. When mentees are given an assignment question such as, "What do you understand by the statement of the research problem?" They develop an initial conception of it. Reading shapes their views at point A. Group discussions with peers reshapes the resultant understanding at B and C. Lecturer's comments on submitted assignment reshapes the student's understanding at D. Finally in apprenticeship, the final deeper understanding is a result of what they read, observed and are told as feedback and their evaluation of it.

The apprentice learning schema can also be explained as a linear model with the following six steps:

1.   Activity – (Tutor demonstration, Apprentice observes)

$\downarrow$

2.   Comment on Activity – (discussion and reflection by both)

$\downarrow$

3.   Feedback – (from discussion, task, environment or peers)

$\downarrow$

4.   Activity – (Apprentice return demonstration, tutor observes)

$\downarrow$

5.   Feedback – (from task, environment, tutor)

$\downarrow$

6.   Final Discussion and reflection

While the apprentice wave progression schema describes the:

Do   ⟶   Observe   ⟶   Discuss and Reflect   ⟶   Do

Cycle for each task, the following limitations for lecturer research competency can be noted.

1.   It does not show the role of peer feedback and apprentice attitudes.

2.   The model has difficulties in accounting for the contribution of apprentice's previous knowledge and skills. This is important in this case where lecturers who have not published have some knowledge on how research is conducted. This experience gained in their undergraduate and postgraduate studies clouds their current perceptions of research.

3.   The model assumes also that the apprentice has no expertise, yet some of the lecturers may have expertise greater than those of the master, say in the analysis and interpretation of data using special package for social sciences (SPSS), Minitab or Excel. The mentor

learns from mentees. This is called reverse mentoring. The mentee can have more overall experience than the mentor in this aspect.

4.   There is no room in the model for the apprentice's learning from other sources such as the internet, peers and other workshops.

These limitations may be taken care of by strengths from other models of competency development such as mentoring.

2.7   SUMMARY

This chapter, which Punch (2006) classifies as the pre-empirical research stage, explored possible competency development models from literature to provide a theoretical basis for lecturer research skills development during the empirical stage. A contextual analysis focused the study on the university research policy. It revealed that there is no specific document called research policy to guide research skills development activities in the university. Activities of the Research Board were focused on the control of funds allocated for research. The Research Capacity Building policy was formulated with the aim of developing lecturer research competency. It was not implemented. The Research and Resources Mobilization policy abandoned lecturer research skills development for the recruitment of professors and PhD holders. Its introduction of the need for the journal impact factor for the tenure and promotion of lecturers made it difficult for lecturers to publish. There was nothing in any of the research policy activities which developed lecturer research skills.

Theories of adult learning by Knowles (1984), Rogers (1986) and Pauro Freire (2000) pointed out that this study's population is composed of adults requiring special methods of skills development. They are comfortable with informal learning methods in small groups. Carr and Kermis (2001) encouraged the study to try the application of apprenticeship models. Its strengths are in the axiom of observe, plan, act and reflect which promotes both the psychomotor and cognitive skills of the participant. For this study, apprenticeship faced the challenge of a lack of serious lecturers involved in research to attach a research mentee lecturer.

Communities of practice theory by Wenger (1998) suggests that learning is a social activity resulting from experiences of participation in daily activities. This theory encourages the study to use group mentoring methods in which discussions, presentations and peer-evaluations promote a social learning environment. Parsloe (2000) stresses the need to guide, support and encourage adult learners. This requirement demanded the application of mentoring as suggested by Aubrey and Cohen (1995). Hansman (2002) hinted that mentors have been accepted for the development of workers' skills at the workplace. To that end, the next chapter is devoted to the exploration of mentoring and its possibilities for use in the development of lecturer research skills.

CHAPTER THREE
AN EXPLORATION OF MENTORING MODELS AND METHODS

3.1   INTRODUCTION

The last chapter explored possible models for skills development which can be applied for the development of lecturer research skills. Considerations of the problem (low lecturer research output), the context (university) and the nature of the affected population (adults) suggest the application of mentoring. Wong and Premkumar (2007) support mentoring by pointing out that it is rooted in principles of adult learning and has been used to develop individuals in education, health, business and social life in general. Pedler and Christine (2013) claim that mentoring is rooted in an experiential learning philosophy which promotes mentee's cognitive and emotional development, leadership and social integration through involvement. The purpose of this chapter is to explore the concept of mentoring to expand readers' horizons of mentorship as a basis for a conceptual model for developing lecturer research skills. It starts by a brief history of mentoring, examines the different concepts of mentoring, mentoring models and methods which can be used. The chapter also investigates the application of mentoring programs in a developed country (Australia) and a developing country (e.g., Zimbabwe) for contextual strengths and limitations.

3.2   A BRIEF HISTORY OF MENTORING

Ragins and Kram (1985) and Klasen (2002) trace the genesis of mentoring from the Greek mythology in which Odysseus, King of Ithaca, entrusted his household to Mentor who was a teacher and overseer of his son, Telemachus, while the king went to war for a long time. Mentor was an individual's name which has become a title for a trusted advisor, friend, teacher and wise person. This view stresses the need for a mentor to be trustworthy. Daloz (1986) regards Mentor as the transition figure in Telemachus' life during the journey from youth to manhood. This long journey of life is marked by the development of social and vocational skills for survival. As a result, mentoring has been conceived as a transitional process to develop a mentee from one

skills level to another. The French use the term *protégé* to describe the role of the learner and power relationship between such a learner and teacher. Manza (2005), underline the observation that mentoring is a relationship not a program. This view classifies mentoring as a social construct that requires more understanding than the surface can offer.

In addition, an analysis of the Greek mythology points to the following characteristics of mentoring as a process:

1.   Mentoring is an intentional process. It has objectives and possible outcomes.
2.   Mentoring is a nurturing process fostering the development of the mentee towards his/her full potential in a specific content and skills area.
3.   Mentoring is an insightful process in which the mentor's wisdom is acquired as discoveries and applied by the mentee.
4.   Mentoring includes the transfer of knowledge and skills from mentor to mentee.

Allegorically Daloz (1986:17) describes mentors as guides who lead in the journey of life by casting light on the way ahead, interpreting arcane signs, warning of lurking dangers and pointing at unexpected delights along the way. The journey of life requires what Kram (1985) called vocational and psychosocial mentoring. This perception acknowledges Thomas' (2001) view that mentoring has expanded beyond career development to include personal relationships between mentor and mentee. Wright-Harp and Cole (2008: 4) view mentoring as a developmental partnership through which one person shares knowledge, skills, information and perspectives to foster the personal and professional growth of another. Mentoring can be viewed as an assisted personal growth process.

In North America, mentoring is still associated with its historical roots where the learner is younger, less powerful and in need of support, and is guided by an older, more senior and more powerful individual (Manza, 2005). The aim of mentoring is primarily that of sponsorship and advising on career development (Klasen, 2002). The purpose of this study is not lecturer career development; hence this North American perspective of mentoring may not be the ideal. It could

raise more challenges to fulfil because lecturers are not being sponsored for participating in this study.

In the European context, the mentor is not necessarily a more senior person, nor is he or she supposed to be more powerful than the learner (Wright-Harp and Cole, 2008). According to Eby and McManus (2004) a mentor should have more experience in the needs of the mentee. Implied for this study is the deduction that lecturers at Mentors University can be mentored by an academic who does not have a PhD but is more experienced in writing publishable papers as evidenced by his/her publication record in accredited journals. In this case Wentling (1992) prefers mentorship to emphasize mentee self-managed mutual learning and development.

Although mentoring history traces mentoring to mythology, Ragins and Kram (1999) claim that mentoring is not a myth. It is a real relationship that has been an integral part of social life and the world of work. Bozeman and Freeney (2007) consider mentoring as an informal transmission of knowledge, a social capital and the psychosocial support perceived by the recipient as relevant to work, career or professional development. Since the 1970s, mentoring has spread in the United Kingdom and United States of America as an effective method for training and was described by Odiorne (1985) as an innovation in American management. The strengths of mentoring for skills development reflected in this brief history compelled the researcher to consider it for lecturer research skills development.

3.2.1 Definitions of Mentoring

Mentoring relationships have been defined from different angles. From an industrial perspective, Werner, Sano, and Ngalo (2011:326) define mentoring as the process by which the knowledge, skills, and life experiences of a selected manager or other senior employee are transmitted to another employee in the organizational system for the purpose of developing that employee for greater work-place efficiency and effectiveness. Its focus is on skills development for job succession in an organization. This definition is appropriate for formal mentoring. According to Kram (1985), this is the vocational or instrumental function of mentoring. This study requires the

instrumental function of mentoring for research skills development. Lecturers need the skill to publish as an instrument for their tenure and promotion.

From a traditional mentoring perspective, Carter and Lewis (1994:8) describe mentoring as, "a process where one person offers help, guidance, advice and support to facilitate the learning and development of another person." This expresses the psychosocial perception of mentee total development for which Kram (1985) advocated. It is learner centred and was endorsed by Megginson and Clutterbuck (2009) when they define mentoring as the off-line help offered by one person to another making significant transition in knowledge, work or thinking. This encompasses mentee's cognitive, competency and social development. Barondess (1995) considered such mentoring as a gift relationship whose object must catch the eye, hand, mind and heart of both the mentor and mentee. One can link this to the apprentice adage in which the observation (eye), do (hand), think or reflect (mind) and internalize are of paramount importance. For research skills development, the eye can identify problems, the hand collect data which ends up being interpreted by the mind before reporting.

Bozeman and Freeney (2007) emphasize the role of communication in mentoring. They regarded mentoring as a face-to-face informal communication between a person perceived to have greater relevant knowledge, wisdom or experience (the mentor) and a person perceived to have less (the mentee). The word 'perceived' is relative. It depends on the nature of the task and the population. In research, the mentor may know more about research for publication and the mentee may know more about computer applications for data analysis and presentation. Kram (1985) extended the definition of mentoring to involve exposure and challenging assignments. Ryan (2008) stresses that mentoring is more of an advice than instruction giving role. Actually Bolam and McMahon (1995) advise mentors not to prescribe solutions but support and encourage, challenge and push the mentee forward. As such, mentoring is focused on long-term career development. This perspective can fit a university situation where lecturers have autonomy over what they learn and teach. Researching skills acquisition has long-term rewards which may include mentoring of others.

According to Parsloe (2000) the purpose of mentoring is to support and encourage people to manage their own learning in order that they may maximize their potential, develop *their* skills, improve their performance and become the person they want to be. By stressing '*their*' this definition is mentee centred and appropriate for adult learners who define what they want to learn, how they want to learn it and when they want to learn. It has a life-long learning and empowering connation advocated for by Freire (2000). Pedler and Christine (2013:62) declare that mentoring has an emancipator effect. It helps people overcome oppression and attain their highest human potentials. Oppression is not necessarily limited to the political arena. In this study, lecturers who have not published are deprived of privileges associated with tenure and conduct, which is a clear indicator of academic oppression within the system. To this end, mentors aim to empower mentees by developing their capacity and competence to research and publish. In simple terms, Cutler (2004) advises mentors to teach mentees to fish rather than giving them fish.

The Australian Catholic University Mentoring Policy (2008) concludes that mentoring definitions agree that mentoring is a voluntary collaborative engagement, centred on agreed expectations and is mutually valuable. An analysis of the definitions of mentoring reveals that mentoring adults should cover both the vocational and psychosocial dimensions. The role of mentors in this study is to assist mentees in their transitions from one level of research competency to another. Mentors can help mentees learn from their past successes and failures through reflection and critical self evaluation on a voluntary basis. To that end, mentors need more than one mentoring technique.

3.3   MENTORSHIP MODELS

3.3.1   Attachment

Attachment also referred to as one-on-one coaching is a mentoring model in which the mentee works with a qualified and experienced worker for skills transfer. This model satisfies Kram's (1985) vocational mentoring. Aubrey and Cohen (2007) call it accompanying. The mentor makes

a commitment in a caring way that involves taking part in the learning process side-by-side with the learner. This has more characteristics of apprenticeship than mentoring. According to Wong and Premkumar (2007), the apprentice model stress learning by observation and imitation. It can be appropriate for formal mentorship organized by the institution. What is critical is the fact that the attaché plays a subservient role to supervisor. Instruction is composed of lectures, demonstrations and supervised practicals. According to Bright et al (2014), attachment provides a one-on-one or face–to-face contact between the mentor and mentee. It is ideal when the mentor and mentee are doing the same task at the same level and time. In Zimbabwe this is done for the development of primary school trainee-teachers' skills.

Hoyle (1986) recommends the application of a one-on-one mentoring in education. In this case a student teacher teaches the same class with a qualified teacher. Matching one student to one teacher is appropriate for the development of teaching skills. The set up allows for observation of students' reactions, discussions and treatment of unexpected episodes. Real life situations are used in attachment. Carvin (2011) registers the following strengths of a one-on-one mentoring relation: it is based in the use of real life situations, sharing of mentor and mentee experiences and allowing the mentee to overshadow the mentor.

Foster (2001) reports that in the US, one-on-one mentoring is used to mentor children. One child is monitored by one volunteer adult. It was found to reduce illegal drugs by children, abuse of alcohol and skipping school lessons. The Big Brothers project in Kentucky targeted African-American adolescents between 14 to 16 years. It aimed to promote the integration of African-American students in schools.

Carvin (2011) encourages mentors to use qualitative and quantitative methods to evaluate the mentee's progress. In qualitative studies, the period of attachment is determined by duration in which no new cases are expected. White (2005) calls it variable saturation point. In education in Zimbabwe, a term or year is used (Chauraya, 2006). In such a long period, the development of formal and informal relationships is critical to sustain the mentoring relationship. The major hurdle with the use of attachment to develop lecturer research skills in Zimbabwe is the lack of

mentors (Nherera, 2000). In the university context, PhD holders are expected to mentor others, but their job descriptions are silent about it. The majority of PhD holders are not committed to mentoring for free and none of them trained for developing research skills by mentoring.

3.3.2 On-line or E-mentoring

On-line mentoring can be classified as a one-on-one mentoring if one mentee is being assisted by one mentor communicating on-line. This is common in technologically developed countries where Information Communication Technology (ICT) is common language, and the use of cell phones, e-mail, chart rooms and online mentorship is encouraged. It is ideal to cater for large geographical distances between mentor and mentees. Foster (2001) observes that on-line mentoring increases mentee's attitudes towards reading and also increase the number of books they read. At times it can also facilitate communication between peers during peer mentoring. However, it lacks the personal bonding common between mentor and mentee when they meet regularly.

On-line mentoring only may not be very ideal for lecturer research skills development due to the current shortage of technological expertise. Salih (2003) observed that the majority of lecturers are not computer literate. According to Allee (2000), the visual element present in face-to-face mentorship is missing in e-mentoring hence emotions cannot be identified for development. It may also increase chances of conflict due to language misunderstandings and registers. Electronic mentoring may also impinge on employees' confidentiality. There is need to consider the next model of peer-mentoring.

3.3.3 Peer Mentoring

Peer mentoring is based on the European context in which the mentor is not necessarily a more senior person but an expert in the needs of the mentee (Wentling, 1992). It acknowledges that some mentees have effective mentoring methods and expertise which can benefit others. It can be done by lecturers at the same level or students in the same university. Peer-mentoring can be

formal or informal. For example a university can request senior students to induct new students. This is formal peer mentoring. Informal peer mentoring arises when students who have specific problems, say using a computer for data analysis, approach someone who they consider to be knowledgeable for help. It is spontaneous and motivated by a problem that needs a solution there and then.

Zachary (2011) points out that peer groups should involve peers with similar learning needs. This can be appropriate for lecturers with a common problem of low research output. The peer group can be self-directed and self-managed to provide the required skills. The group can be encouraged to craft its own mentoring agenda and activities.

Peer mentoring has several advantages for individual mentees. Zachary (2011) highlights that collective wisdom is harnessed to solve the problem when peer group mentoring is applied. Kram (1985) confirm the importance of peer relationships for psychosocial and career development across all stages of an individual's career. They found that through peer relationships, individuals shared information freely, planned career strategies, provided job-related feedback, engaged in emotional support and friendship and shared mutuality of needs, resources and interests. In this study, participants are adults expected to benefit more from their peers. Informal communications contribute to the development of relationships in peer mentoring. Participants enjoy the possibility of equal power basis in the relationship.

It is important to include peer-mentoring aspects in lecturer research development mentoring to facilitate mentees' benefits from each other. This is supported by Klasen (2002) who established that peer relationships provide higher quality exchanges, greater reciprocity and greater continuity. A single mentor can suffice for such guidance.

3.3.4   Team Mentoring

There are basically three forms of team mentoring which can be used in organizations. They are discussed in the following paragraphs. The critical indicator of team mentoring is that more than one mentor works with a mentee or one mentor working with more than one mentee.

3.3.4.1 Multiple Mentoring Models

Multiple mentoring is based on the assumption that individuals rely on multiple individuals for development support in their careers (Kram, 1985). As a result, career development mentoring calls for more than one mentor. Huggins and Kram (2001) suggest a combination of the social network theory and social network methods with research on mentoring to support multiple mentoring. In fact, an individual's career and psychosocial developmental network is a subset of his/her entire social network. This calls for mentee exposure to multiple experts. Kram and Huggins and Kram (2001) note that although success in business requires a single mentor to show you the ropes and open the right doors, the current situation is that a single mentor cannot keep up with all the challenges of the technological and social fast-moving world of work. They called for the creation and cultivation of developmental networks. Small groups of people (mentors) who provide regular advice and support to workers in any organization are required. This is a critical need in a new university where the majority of employees are grappling in the dark for research skills to save themselves from the 'publish or perish' peril.

Klasen (2002) propose that in a multiple mentor model, a group of mentors can take on one or more mentees. This model is encouraged by an increasing number of firms who believe that their employees can benefit most from working with a diverse group of mentors. Thompson (2000) and Clutterbuck and Ragins (2001) concur that multiple mentoring is ideal in situations where mentees require different specialized skills. In lecturer research competency development, mentees may require writing skills, computer skills and data gathering skills or research publication skills which call for different expertise hence multiple mentoring can be ideal for this study if the experts are available.

One can deduce that the multiple mentor model is designed for career or professional development of an employee requiring several skills. Specialist mentors assist one mentee to develop several skills. Ryan (2008) suggests that students in a school or university can benefit from this multiple mentor model. The academic mentor can provide academic guidance on such matters as planning and use of study time. A clinical mentor can assist with the development of practical skills during attachment or laboratory exercises. Bozeman and Feeney (2007) suggest that peer mentors at university can be senior students. They provide different area support and encouragement to junior students.

Illustration of Multiple Mentor Model
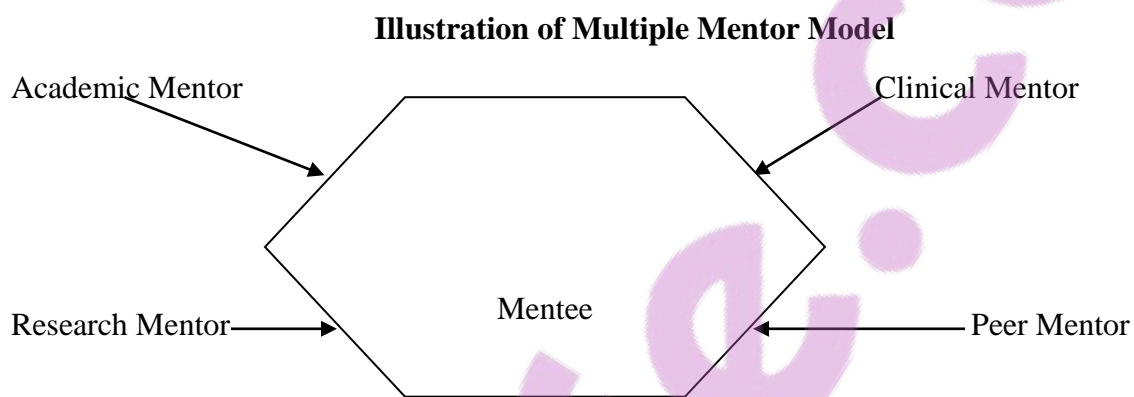
Figure 3.1: Multiple Mentor Model (Adapted from Wright – Harp and Cole, 2008:10)

The multiple mentor model could be adapted for a university wide research skills mentoring program. Experienced willing mentors being available, the group of mentee participants could be assigned a mentor for the identification of a research problem, and another for data analysis, findings dissemination, presentations and writing for publication. The model enables mentees to learn from experts in all aspects. One factor which can militate against application of a multiple mentor model is the shortage of senior level lecturers and researchers to mentor others (Ntiamoah-Baidu, 2008), hence the need to consider group or mentor to mentees model.

3.3.4.2 Group Mentoring (mentor to mentees) Model

According to Rhodes (2002), group mentoring is an association of individuals whose purpose is to promote the professional development of members with the assistance of a mentoring group

leader. Carvin (2011) regards group mentoring as a mentoring methodology that can be used for individual skills development in a group setting. Foster (2001) recommends one mentor working with four mentees. The mentor can be an adult who wants to give something back to the community. This requirement implies that the mentoring is voluntary. It must be focused on solving community problems.

Zachary (2011) supports group mentoring for four reasons. First, it requires one mentor for more mentees. This solves the dilemma of mentoring many people with limited senior mentors. It also fits well with the university context in Zimbabwe. Second, mentoring efforts reach many people in a time-efficient manner. Third, it promotes diversity of thinking, practice and understanding. Last but equally important, is the fact that group mentoring combats mentor fatigue and burnout. Lewin's 1946 seminal paper (in Gilbert 2008) and Gray (2009) propose the use of groups in participatory action research that combine experimental approaches (interventions) to social science with social action.

Klasen (2002) recommend the application of group mentoring where mentor's time is limited but he or she possesses expertise in an area that might be of interest to multiple mentees. The research mentor is the hub expected to help students seek information for research skills assignments. He/she can provide web-sites and links. For the development of research skills, the research mentor is expected to be a successful researcher with a track record of student research project supervision and publications. To this list, Mudhovozi, Manganye and Mashamba (2013) add the skill to review research papers. The ideal research mentor should be interested in the mentees and willing to invest the necessary time to foster the development of mentees research capabilities. In this study, mentee's professional self-confidence can be boosted by providing opportunities for each mentee to disseminate his/her research through presentations and publications.

When a single mentor participates, Krishnaveni (2008:364) observes that mentoring has multi-functional roles. The mentor takes on the role of coach for job-related knowledge and guidance, counsellor and listener for emotional support, guardian for the mentee's well-being and interests

and net worker/facilitator providing access to networks and resources. For university research skills, networker's roles can include identification of journals in which research can be published and possible sponsors and their research areas of interest. The different mentor roles are illustrated by Hewlett-Packard (1997), mentoring model presented below.

Hewlett – Packard Mentoring Model (1997)

Express Care and Concern
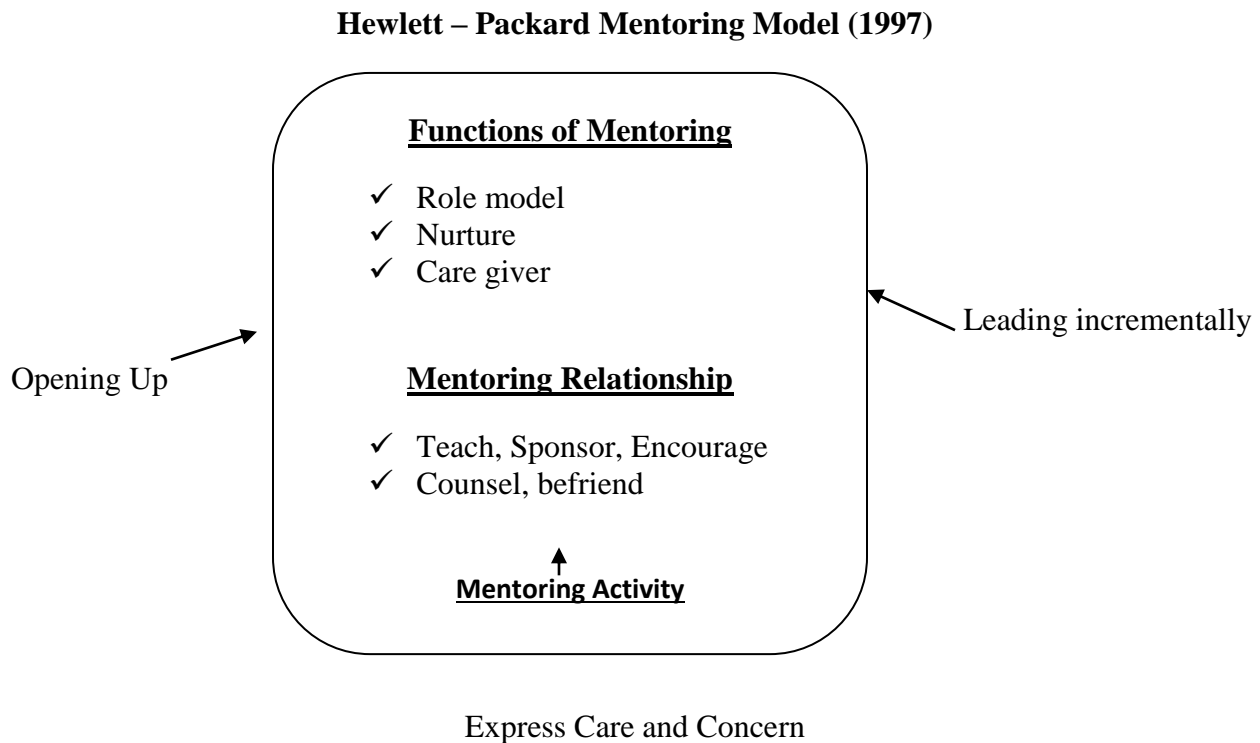
Figure 3.2: Hewlett – Packard Mentoring Model

The Hewlett-Packard mentoring model is focused on a single mentor. It shows three inputs namely: opening up, expression of care, concern and leading which the mentor should develop for effective mentoring output. Specifically mentors are expected to open up by sharing their experiences, reasoning decision processes and be observed by their mentees. Of importance also is that they should allow their mentees to critique them. In research, mentees can read, analyze and critique mentor's published work and rejected scripts for content and presentation styles.

The model also provides guidelines on the functions of the mentor from the human relations angle. For example, it shows that teaching by demonstration and observations are essential in a mentoring relationship. Furthermore the mentoring model emphasize more of mentor personal

qualities like mentee care giving, counselling and befriending than the technical aspects such as the use of computer to analyze data.

Group mentoring model has a lot to offer for lecturer research skills development at university level. I noted that the functions of the mentor can be put into action by demonstration lessons, observation, feedback discussions and support meetings. These actions are implemented during each of the mentor and mentee meetings. Of great importance is the students' presentations, they develop communication and social skills required by any researcher. Mitchell (1999) supports group mentoring for two reasons. First, it combines strengths from peer mentoring and senior one-on-one mentoring. Second, the natural human need to compete within the group can be capitalized on for individual benefits. Equally important is the deduction that mentors require a nurturing personality for the success of a group mentoring process. After considering that Mentors University has more mentees than mentors and that lecturers are adults who benefit more by learning in groups, I deduced that group mentoring would be ideal for this study.

3.4   MENTORSHIP METHODS

Mentorship can be done either formally or informally. These two methods are discussed in the paragraphs below.

3.4.1   Formal Mentoring

Rhodes and DuBois (2005) have classified mentoring methods basically into two: the formal and informal mentoring methods. Formal mentoring can be identified by being organized by the institution. Wong and Premkumar (2007) suggest that mentor and mentee matching is an organizational priority based on organizational needs. For example, a school head is obliged to mentor his/her deputy for succession. The school hierarchical structure dictates formal mentoring. The mentors follow a structured program to provide guidance and support to mentees placed under their care. They (mentors) are rewarded for their mentoring services. Formal mentoring duration is time-framed.

A critical analysis can deduce that formal mentoring relationships are threatened by supervisor and supervisee structure. Being a supervisor and mentor violates Cutler's (2004) suggestion of mentors serving as confident builders not evaluators. The mentorship relationship cannot last long after the separation of the mentor and mentee. For this study, formal mentoring for research skills development was not possible. Factors militating against it include these. First, Mentors University has no policy on the development of lecturer research skills hence they do not regard that as their responsibility. Second, the university does not sponsor or assist lecturers during their studies for doctorate degrees or research publications. Under these conditions, consideration of informal mentoring was called for.

3.4.2   Informal Mentoring

According to Wong and Premkumar (2007) informal mentoring is largely spontaneous and psychosocial. Bozionelos and Wang (2006) regard it as an unpaid social obligation. Matching of mentor to mentee is based on mentor expertise and mentee's needs and interests. A mentor is motivated to accept, commit him/herself to the mentoring relationship by the will to share and help others. Wellis (1991) notes that individuals seeking to further their own careers tend to exhibit help-seeking for instrumental and strategic positioning. Rhodes (2002) supports the instrumental motives driving participants when he suggests that informal mentoring group programmes attract volunteers who, by virtue of their jobs' problems, are motivated to join. I inferred that lecturers volunteered to participate in this study for instrumental reasons. They needed skills to research and publish as an instrument for tenure and promotion. I also concluded that the instrumental function of mentoring is a very strong motivator and source of participant commitment to the study. It enhances mentees' self-esteem and confidence by providing emotional support and discovery of interests to both mentor and mentees.

Johnson and Anderson (2010) deduce five characteristics of the informal mentoring relationship. Firstly, the informal mentoring relationship is more intense emotionally because of the natural and intrinsic commitment from all participants. Secondly, informal mentoring relationships are invisible and can operate without endorsement or even awareness of the organization. Thirdly, it

is focused on a mentee's career and psychological development. Fourth, informal mentoring relationships last longer than formal mentoring relationships due to unconstrained organizational parameters and time frame. Fifth but equally important, is the observation that informal mentoring has more efficacy. Chao (2005) declares that no study has shown that formal mentoring is superior to informal mentoring due to the appropriate matching of mentor and mentee and the development of mutual trust between them. After considering that the university is not supportive, participants are committed to solve their problem and the benefits of informal against formal mentoring methods, I found myself settling for the informal group mentoring methods. The next paragraph presents different mentoring phases which can be applied.

3.5   MENTORSHIP PHASES

There are different stages followed by mentees during the development of a mentoring relationship. Kram (1983) identifies four phases of a mentoring relationship starting with initiation and ending with redefinition of the relationship. This analysis implies that life can be a mentoring journey with a series of activities. It is traced in the next paragraphs.

3.5.1   Initiation Phase

The initiation phase marks the beginning of a mentoring relationship. Kram (1985) observed that the mentee feels cared for, supported and respected if the manager's behaviour indicates that the mentee has the potential for professional development. When the manager is interested, he or she can provide developmental opportunities for the mentee as indirect acknowledgement of the existence of some mentoring relationship. During such times, a mentee's criticism of a process is regarded as the mentee's assertiveness and competence requiring development and redirection. This phase is characterized by imaginations and takes approximately a year to materialize. They usher in the cultivation phase. Their ending and starting do not have rigid or solid boundaries. The involvement of the manager may be common in formal rather than informal mentoring relationships.

3.5.2   Cultivation Phase

The cultivation phase is marked by identifying the materialization of fantasies into reality. Both the mentor and mentee discover the benefits of relating to each other. The manager may realize that delegating some of the tasks to the mentee reduces his or her work load. The mentee may realize some benefits from volunteering tasks. Mentors can assign challenging work and expose the mentee to visibility; they can provide protection and sponsorship. Interpersonal bonds strengthen and psychosocial functions emerge during the process.

The development of career functions depends on the mentor's organizational rank, tenure and experience. Psychosocial functions depend on the degree of trust, mutuality and intimacy characterizing the relationship. An informal basis is more effective in this regard. After approximately two years, the mentee may start to realize a sense of competence as a result of the exposure, coaching and mentoring. Promotion from one level to another may mark the benefits. Mentee may also gain satisfaction from the realization that he or she contributed to someone's professional development. This period may take two to three years before separation.

3.5.3   Mentor-mentee Separation Phase

Separation is marked by changes in functions of both the mentor and mentee. The equilibrium of the cultivation relationship is disrupted. The qualified mentee experiences new independence and autonomy. They both assess the contributions of their relationship to their current roles. The mentoring relationship turns unresponsive to their individual changing needs.

Separation can be stressful for both the mentor and mentee. If the mentor and mentee are not prepared for the emotional separation, they may feel at a loss. Some managers resist separation by blocking a junior manager's promotion (Kram, 1983). The mentee may feel abandoned and unprepared for new challenges. Organizational structures facilitate the separation or blocking of it. Effective separation requires preparation. Even when the mentored manager is geographically separated, psychological attachment can keep them together for a long time. The end of this

phase is marked by the realization that each of the two no longer needs the other. New relationship can then be defined during the redefinition phase.

3.5.4   Relationship Redefinition Phase

At the redefinition stage, new relationships arise. Both individuals can start some form of contact. Most probably a collegial form of relationship shown by informal consultations from both sides can arise (Megginson and Clutterbuck, 2009). The senior may continue to support the younger manager. Critical is the fact that they will work more on an equal footing.

3.6   MENTORING PROCESS PHASES

In this study, mentoring process refers to the progression of mentoring activities. This can be referred to as phases rather than stages because they have fluid and permeable boundaries. They dovetail into each other. Zachary (2000) and Carvin (2011) provide activities that can be carried out by both mentor and mentee at each phase. Their practical suggestions form an important base for this study's mentoring model to be used during fieldwork. Ragins and Kram (1999) encourage application of research findings in practice when they suggested that mentoring research needs should both inform and be informed by mentoring practice. They call for a bridge between researches and practice which this study intends to reduce by designing interventions informed by research.

3.6.1   Planning Phase

Zachary (2000) assigned the planning activities to the mentor. The mentor is required to assess his/her own motivation for mentoring, ability and commitment to the mentoring process. Motivation can be from the mentees' need or presence of a problem that requires mentoring. Carvin (2011) also requires the mentee to plan the group structure. Mitchell (1999) recommends a group of size ratio of 1: 5. The justification is that five mentees is a large enough group to allow for a variety of viewpoints and experiences and is small enough to allow all members to

fully participate. The mentor is also expected to carry out a self-assessment in terms of his/her expertise in the area in which the mentoring is required. The mentor should also consider variables such as venue and time among the mentoring logistics before the negotiating phase.

3.6.2   Negotiating Phase

The mentoring negotiating phase can be regarded as the mentoring programme marketing phase. It can be done by the organization for formal mentoring or by the mentee or mentor for informal mentoring programs. Since this is the first mentor and mentee encounter, Carvin (2011) suggested that: mentor and mentee agree on desired learning outcomes, mutual responsibilities, accountability assurances, protocols for addressing problems, criteria for measuring success and an action plan for implementation including meetings, venue and times. This stage is important for programme co-ownership and mentor and mentee commitment. If external facilitators are required, they should be approved for appointment at this stage. Zachary (2000) advises mentors to understand the learning styles of mentees and to regard them as individuals. The start and stop dates are also established at this stage of the mentoring program.

3.6.3   Implementation Phase

The mentoring programme implementation stage covers all the action during mentoring. Initially the mentor takes the lead. Eby and McManus (2004) called it *sowing*. It involves teaching by mentor actions, demonstrations and general conduct to be observed. Its content is mainly the introduction of concepts and skills. It answers the *what, how* and *why* questions from mentees by explaining mentor rationale for action. The mentor leads the learning incrementally from one stage to the other over time. In group mentoring, group discussions and presentations are critical to tap peer expertise. Mitchell (1999) encourages a round table brainstorming as an important contributor to generate ideas.

The implementation phase initiates mentees into the traditions of a community of practitioners (Cutler, 2004). Mentees learn the conventions, languages, constraints, repertoires and patterns of

knowing-in-action. To that end, Zachary (2000) advised mentors to: (a) ask questions to help mentee reflect on and articulate their thinking. The "*Why?*" questions are more provocative and seek explanations; (b) reformulate mentees statements to probe them to clarify their understanding and encourage reflection and insight generation; (c) listen for mentee's silence as indicator for mentee boredom, confusion, discomfort, embarrassment or need for time to provide authentic feedback; (d) encourage reflective practice during and after the mentoring; and (e) require mentees to summarize what transpired and was agreed on each meeting. This allows the mentor to check out assumptions and achievement of goals. Summarizing also imprints what transpired in mentees' minds. For practical skills in research, discussed presentations can take the place of return demonstrations.

Johnson and Anderson (2010) proposed catalyzing to facilitate mentee's learning by plunging the mentee into a situation which demands a change. Mentors can use open ended challenging tasks whose answers are not direct to facilitate learning by problem-solving. Switzer (2007) advocates the application of case studies to promote mentees' problem solving skills. Pedler and Christine (2013) classify knowledge got from problem solving as performative knowledge. It is applied to solve problems. Mentees learn by trial and error or trial and success, hence the need for mentor to allow mentee experimentation.

3.6.4 Closure of Mentoring Relationship

At the end of a mentoring process, Zachary (2000) requires that the mentor and mentee share their learning experiences. Sharing experiences is also encouraged for participatory action research in which the mentor and mentees are active learners (Gray, 2009). Discussion focus can be on what they learned and how they intend to apply the experience in future. Suggestions for improvements from both of them can provide sources for future mentoring relationships. Mitchell (1999) suggests that evaluation of achievements and constraints should be done without blaming anybody. Descriptions of incidence that had special meaning form strong sources for mentoring strengths and loopholes. This is more of a summative evaluation.

Rhodes (2002) referred to the evaluations as harvesting. It is the evaluation of mentee's learning by asking questions such as, "What have you learned?" and "How useful is it?" Wong and Premkumar (2007) consider the use of questions as critical attributes of reflective mentoring. They describe it as an intentional, nurturing and insightful process that provides a powerful growth experience for both the mentor and mentee. It is appropriate for participative action research. For mentoring interventions such as the development of lecturer research skills, harvesting can refer to the feedback and publication of papers. Both the mentor and mentee receive products.

3.7   MENTORING IN HIGHER EDUCATION

Women's Centre (2014) regards mentoring in higher education as a structured approach to develop the talents and abilities of an individual working in an educational environment. In this study the term higher education refers to education at university level. This literature was consulted for possibilities of a mentoring model. The next paragraphs explore mentoring activities in a developed country, Australia, and in a developing country, Zimbabwe.

3.7.1   Mentoring in Australian Universities

O'Shea (2002) reports that Australia is the sixth largest country in the world. It is a developed country with a gross domestic product (GDP) of 2.25% to 3.25% per capita income. Its service sector provides more wealth than the industrial sector. The historical connection between Australia and Zimbabwe makes it proper to compare the mentoring activities of both countries. Zimbabwe, formerly Rhodesia, and Australia were once British colonies. Australia was formerly established as a convict colony of Britain in 1788 before it gained its autonomous status in 1907.

Subsequent paragraphs summarise mentoring in universities in Australia. The focus is on student peer mentoring, students to business people or organizations and staff policy on mentoring. The section concludes with an examination of the report on mentoring accounting lectures for research skills development.

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3.7.1.1 Student Mentoring

The first student mentoring in Australian universities is held during the university students' induction program. According to Colvin and Ashman (2010) the rationale behind such peer mentoring is that peers have an impact on one another and that previous peer experiences facilitate learning. At the Australian National University and The Federation University in Australia, undergraduate group peer mentoring programmes are carried out. O'Shea (2002) notes that student peer mentoring is done to facilitate undergraduate transition to a tertiary environment. This is Kram's (1985) vocational mentoring function. The psychosocial function is satisfied by the programme being peer to peer. It creates an inclusive social academic support which also reduces new students' social isolation.

In peer mentoring programmes, mentors are senior students in the same faculty. They undergo training in interpersonal skills, their roles and resources. They mentor five to eight students. This is a formal group mentoring. The university supports them by providing them a handbook on mentoring, web-site for questions and answers which they can access using a password (Pomfret and Wang, 2003). Mentors are rewarded with a certificate from the Vice-Chancellor commending their training and community service spirit (O'Shea, 2002). This shows that student peer mentoring is formal. It supports students' orientation programs and is supported by the university.

The second mentoring that university students in Australia receive is offered by the Careers Centre. The University of Western Australia offers a one-on-one match of students (mentees) with professionals for advice on career direction and industry knowledge. It has basically four objectives. First, it supports students in developing skills to manage their career. Second, it provides students with industry perspectives to enhance their academic learning. Third, it prepares students for transition to the workplace and establishes mutual relationships between industry, the university and its students. Powles (1985) observes that Victoria University has an elaborate student career mentoring programme called Career Bridge. It prepares students for a smooth transition from university to the field of work. Some of its activities include the

internship of business students to businesses in China and India. E-mentoring is carried out to support students far away from Australia.

At the University of Australia, the business school pairs students with experienced business professionals for employability and leadership. Mentors participate on voluntary basis. According to Mammone (2012) business mentors are motivated to participate in the mentoring relationship by the following factors:

1. To inspire students to reach their career potential;
2. To exploit opportunities to network with other mentors and mentees;
3. Identify student talents for their organizations;
4. Support their corporate social responsibility agendas;
5. Reflect and share their experiences;
6. Stay in touch with university and current initiatives. This is a source of business collaborative partnership with the business school at the University of Australia.

Rhodes (2002) considers the research process for publication as a skill that can be acquired through mentoring from the research supervision stage. On the contrary a study of the experiences of fourteen Asian Arts Education doctoral students from Australia, British and North American universities by Leong (2006) found that supervisors did not mentor students to publish papers. Barondess (1995) asserts that mentoring is self-perpetuating. Mentored researcher tends to mentor others. This calls for an examination of lecturer mentoring for research.

3.7.1.2 Lecturer Mentoring for Research

Lecturers' mentoring can be guided by the Australian Catholic University Mentoring Policy (2008) which affirms that there are four fundamental necessities for university lecturer mentoring to succeed. First, there must be an institutional commitment, apparently for both formal and not informal mentoring. Second, the institution must recognize staff members who volunteer to undertake the mentoring roles. Third, there is need for a mentoring programme to be

collaborative to expose mentees to multiple experts. Last but critical, mentoring programmes must be designed with participants' input. The need for participants' input calls for participative methods.

CQ University Australia, Curtin University, Queensland University of Technology and The University of Queensland consider research as a part of a lecturer's career (Rhodes and DuBois, 2005). Consequently the universities facilitate research mentorship for all levels of research active staff as individual mentors or mentees. Professors are appointed as mentors on the assumption that their professorial role legitimates a claim to seniority in the discipline (Irvine, Moerman and Rudkin, 2008). Research mentors are required for developing mentees' skills in article writing for publication, grant submission and supervision of research projects of higher degrees students (CQ University Research Mentor program, 2014). This view recognizes research project supervision as part of the research mentoring process.

Switzer (2007) noted that, the major aim of lecturers mentoring at CQ University Australia, Curtin University, Queensland University of Technology and The University of Queensland, is to build relationships that develop sustainable university research capacity. This is achieved when mentors celebrate with mentees on success, help mentees exploit disappointments as learning opportunities and challenge mentees to think beyond daily talks. Wright-Harp and Cole (2008) observed that, practically, research mentors support mentees by:

1.   Reading drafts and making constructive comments;
2.   Holding workshops on writing habits or strategies;
3.   Developing research activity timelines;
4.   Advising mentees on how to deal with co-authors and collaborators;
5.   Challenging and showing the way;
6.   Conducting group seminars and availing support material on-line.

These provide mentor activities for the possible mentoring model for the development of lecturer research skills.

3.7.1.3 Leaf from Queensland University of Technology's Mentoring Programme

According to Irvine, Moerman, and Rudkin (2008), Queensland University of Technology suffered from insufficient senior accounting academics in the university. This lack of senior academics in accounting motivated the university to start a mentoring programme. They were also motivated by the rationale that the academic community should share inspiration and socialization. Emmerik et al (2005) advised them to apply mentoring as a tool to be used when employees are confronted with adverse working conditions.

Five accounting lecturers (mentees) volunteered to be mentored by a visiting senior academic. This strategy is at variance with Chao (2005) who argues that outside mentors may not be effective. Funding was available for the research publication mentoring scheme. It is clear that this is a formal mentoring program. Participants committed themselves to a two weeks' course. Both individual and group mentor meetings were organised. A three-day workshop on research writing skills was held. The mentor read mentees' research drafts and made constructive comments. The programme's measurable success indicators were a publication submission by each mentee and a model of mentoring (Irvine, Moerman, and Rudkin, 2008: 22). All mentee participants were able to publish their written articles after the workshop.

What can be deduced from this case study includes these: (a) mentoring can be used to solve the problem of lecturers' low research output; (b) group mentoring can be used to solve the problem of lack of writing for publication skills (c) the success of a mentoring programme can be measured by published papers from participants and the mentoring model; and (d) a group of five mentees is ideal. These inform the current study's methodology and findings. However, we need to consider that Zimbabwe is also different from Australia. There is need, therefore, to study mentoring in Zimbabwe's universities.

3.7.2   Mentoring in Zimbabwean Universities

Universities in Zimbabwe are at different stages of development. The University of Zimbabwe, the mother university for Mentors University was established in 1957. Although one can be justified to assume that academics in Zimbabwe's universities are aware of mentoring as a skills development strategy, there is limited documented information on the mentoring of lecturers for research skills development. Burke (2010) acknowledges the need to focus on increasing research output through publications and research capacity building through mentoring.

NECTAR (2012) reports that mentoring for research skills is provided by the University of Zimbabwe College of Health Sciences (UZCHS). It mentors postgraduate students and junior faculty researchers in health. Mentors are from Zimbabwe's senior and junior ranks of health practitioners. External mentors are from Stanford University and Denver Colorado University. Mentees are volunteers from health and education who respond to an advert and are considered to benefit from the mentoring.

The Zimbabwe College of Health Sciences uses group mentoring complemented by one-on –one mentor to mentee interaction. According to NECTAR (2012), mentees are expected to join the faculty as mentors when vacancies arise. The mentoring process used satisfies Kram's (1985) vocational function. The mentoring programme includes research methodology teaching, attachment experiences to relevant research institutions, presentation of results at conferences and publication in peer reviewed journals. These are formal mentoring programmes funded by donor agents.

Out of the university, mentoring programmes are thriving. Examples include Woman Journalist Mentoring Program (WJMP). Sharon (2011) reports that WJMP is a collaborative effort between Humanitarian Information Facilitation Centre (HIFC) and the US Embassy's public affairs section. Its aim is to develop leadership skills such as editorship, publisher and media management. The programme applies a one-on-one mentorship in professional writing, presentation and leadership.

Savana Trust (2014) is mentoring theatre artists through exchange programs. It also mentors researchers to carry out needs analysis for the theatre sector in Zimbabwe. They apply group mentoring and one-on-one models. Danda and Gwinji (2013) propose the mentoring of midwives in Zimbabwe's health education sector. It is expected to solve the problem of midwifery shortages in Zimbabwe. Mentoring is assumed to improve midwifery service quality and quantity.

When we subscribe to Powles (1985) concept of mentoring as an interactive teaching-learning situation, then research project supervision qualifies to be a mentoring process. Research supervisors are part of an extensive team educating future researchers. Moses (1994) note that research mentors have the critical role of initiating students into research, motivating them and stretching their minds beyond their formal horizons. This conception entails that there is a lot of lecturer to students' mentoring for research skills development. This is group mentoring complemented by one-on-one mentoring mode. No formal lecturer to lecturer mentoring for research skills development was found. Mudhovozi, Manganye and Mashamba (2013) also found that research supervisors (mentors) were not trained to supervise postgraduate students. The absence of mentoring for lecturers may support Barondess (1995) who concluded that mentoring is a self-perpetuating process. Mentored lecturers tend to mentor others and un-mentored lecturers will have no inclination to mentor others.

As researchers, we cannot quickly conclude that there is no mentoring for research development in Zimbabwe's universities. A lot of informal mentoring may have gone unnoticed. Mentoring can be taking place because of the benefits shown in the next paragraphs.

3.8   BENEFITS OF MENTORING

Since mentoring in an organization involves the mentor, mentee and the organization, its benefits need to be considered from each standpoint. Carter and Lewis (1994:75) and Werner, Sano and Ngalo (2011:326) hint that for the successful implementation of mentoring model in a university or teachers colleges:

1. The mentoring for research is aligned with the strategic Human Resources objectives of the organization. Lecturers must publish or perish.
2. The mentor, a more experienced research publisher with knowledge and skills to share, can be found.
3. Volunteer participants committed to the mentoring project can be found because of the need to address the problem.

When the three aspects above are in place, the following mentoring benefits can be considered.

3.8.1 Mentee Benefits

Mentoring in organizations is ideal because it has benefits to all participants, namely the mentee, mentor and organization. Krishnaveni (2008) identified the following benefits for the mentee who:

1. Gets a personal contact informally other than course tutors and other assessors.
2. Gets a source of support and guidance for research.
3. Has a critical friend with whom weaknesses can be explored, addressed and achievements built upon and shared.
4. Receives regular feedback on research progress monitoring and encouragement towards publication.
5. Regular meetings with peers (for group mentoring) provide research progress monitoring and encouragement towards publishing.
6. There are chances to explore teaching and learning through research presentations and peer feedback.
7. Anticipated higher job satisfaction, greater career advancement and less work conflicts.

3.8.2 Mentor Benefits

Mentor benefits are summarised as follows (Krishnaveni, 2008):

1.   It provides a platform for the development of management skills such as project planning, management of small groups and monitoring skills development.
2.   It provides a platform for reflecting on one's own practice.
3.   It is a source of opportunities to network with other professionals, for example editors.
4.   It increases job satisfaction and self esteem.
5.   It creates new opportunities for career and professional development as a supervisor for PhD. students by research.

3.8.3   The University Benefits

University benefits are summarised as follows (Krishnaveni, 2008):

1.   There is faster induction of novice lecturers into research for publication.
2.   Its human resource (lecturers) is developed at no cost.
3.   Improved succession planning for lecturers in research and research project supervisors.
4.   Reduced lecturer turnover on the basis of no-publication.
5.   Increased productivity and lecturer research output.

3.9   MENTORSHIP BARRIERS

Although mentorship models appear to be attractive, Johnson (2007) observes that mentoring relationships can be rendered dysfunctional or destructive by the following factors. Mentor may exploit mentee by using the mentee to do his or her research (data collection and analysis) for publication without crediting the mentee as a co-researcher. The mentee can be frustrated by a mentor who is not accessible or active. Scandura (1998) notes that at times the mentor can be jealousy when the mentee succeeds as a result of the mentor's contribution or not. Eby and McManus (2004) confirm that jealousy and competition are dimensions of dysfunctional mentoring relationship. They lead to suspicion, mistrust and counterproductive behaviour. Scandura (1998) propose that when dysfunction occurs, it may increase mentee stress and withdrawal in the form of absenteeism and turnover.

Mentoring may also be affected by mentees who may become too dependent on their mentors and ceases to think for themselves. This defeats the grooming objective of mentoring. At times the mentee may rebel against the mentor, disagreeing with anything the mentor says and never sticking to action plans. Fear of tackling the emotional attachments during the separation stage may also bar mentoring relationships.

3.10 CONCLUSION

This chapter traced mentoring from the Greek myths which portray mentoring as assistance rendered by a senior to a junior member for the development of the junior's skills for his/her life journey. The main mentoring model is one-on-one matching. Shortage of mentors in organizations raised the need for group mentoring models. There are applied peer-to-peer student mentoring activities in universities. In developed countries like Australia, a lot of formal career development mentoring is carried out in universities. In Zimbabwe, universities have limited documented formal and informal mentoring programs.

An appraisal of mentoring portrayed in this chapter and considerations of the contextual environment, problem and affected population revealed that: (a) group mentoring can be ideal to cater for limited research mentors and many mentees; (b) peer mentoring techniques should be factored in the intervention to increase peer-to-peer learning that is ideal for adult learners; (c) informal mentoring is more appropriate for a university which does not support its lecturers' development of research skills; (d) success indicators of the mentoring intervention are mentees' published papers and the mentoring model; and (e) an internal mentor who has the skills required by the mentee is appropriate. Mentor qualifications, include being an experienced academic researcher, publisher and a journal peer reviewer, are added advantages. Critical for the mentor is the desire for participation on a voluntary basis. These deductions provided the basis for the study methodology and the empirical study inquiry findings.

CHAPTER FOUR

METHODOLOGY: THE STUDY EMPIRICAL INQUIRY

4.1   INTRODUCTION

The first chapter of this study identified low lecturer research output at Mentors University in Zimbabwe. A survey of literature in chapter two revealed that lecturers lack research and publication skills because their research project supervisors did not mentor them to publish (Leong, 2006). Furthermore, Mentors University has no research policy on the development of lecturer research skills. In addition, the university suffers from a scarcity of mentors to develop lecturer research skills. An examination of possible models for developing competencies suggested the use of mentoring. Chapter three explored mentoring models and possible mentoring methods. I concluded that informal group mentoring complemented by peer-to-peer and one-on-one model should be designed to address the problem. Cases of formal group mentoring in Australia provided insight for this study. Although Zimbabwe suffers from limited documented evidence of formal and informal mentoring for lecturer research skills development, I assumed that lectures rely predominantly on informal mentoring methods for their skills development. This void points to a lack of systematic, empirical research on models to be used for lecturer research competence development. These two conditions were primary motivations for the researcher.

This study carried out an exploratory and descriptive research on the creation of a model that can be applied to develop lecturer research competence in institutions of higher learning. It was not merely a survey. It involved document analysis, surveys, model implementation and interviews to evaluate the process of developing lecturer research skills. To address the study research questions and goals, I collected data in three phases using seriated mixed (qualitative and quantitative) methods. This chapter describes data collection through literature review (for models of competency development), surveys (to understand the problem context), document analysis (for institutional policy), model implementation and evaluation. This exploratory mixed research design is according to Creswell (2007) who explains that in exploratory designs the

researcher needs to understand the problem and its context before measuring its distribution or prevalence.

4.2 RESEARCH DESIGN

Different authors view the word design from different functional angles. Babbie (1992) regards a research design to be a model or scheme that guides the researcher's views of any phenomenon being researched. McNiff and Whitehead (2006) consider design to be a set of ideas or theories appropriate to a specific context. In this study, which investigates how university lecturers can improve their research output, the context is influenced by participants (lecturers), their problem (low research output in the form of publications) and the institution (university). These variables call for an exploratory mixed (quantitative and qualitative case study and model building) methods.

Punch (2009) regards mixed methods research as a research in which the investigator collects and analyses data, integrates findings and draws inferences using both qualitative and quantitative approaches. The qualitative design is valuable for developing interventions because of its flexibility and rigor in context. The quantitative approaches are required for accurate data analysis and precision. They provide hypothesis tests to confirm possible guesses. According to Denscombe (2010:148), good social research will always mix quantitative and qualitative methods to provide an adequate answer to the problem affecting people in a given social context. Implied is the fact that, a single method is insufficient for an exploratory social research.

Usually original studies do not have a ready-made research design. In this study, the problem dictates the use of naturalistic methods from qualitative designs. The researcher is an active participant (anthropology) exploring lecturers' research experiences (ethnography), and focusing on methods used to research and publish (ethno-methodology). As a result, I crafted the study's research mixed methods design like a bird's nest. A twig from a tree and strands of grass are interwoven according to study purpose and the researcher's philosophical understanding and main research question. Figure 4.1 shows the links between the embedded categories of

qualitative research designs (the researcher's framework). The diagram (Fig 4.1) illustrates that ethno-methodology is nested within ethnography which is again nested within anthropology and within qualitative approaches. These are relevant subsets for this study.

Qualitative Research Design Summary
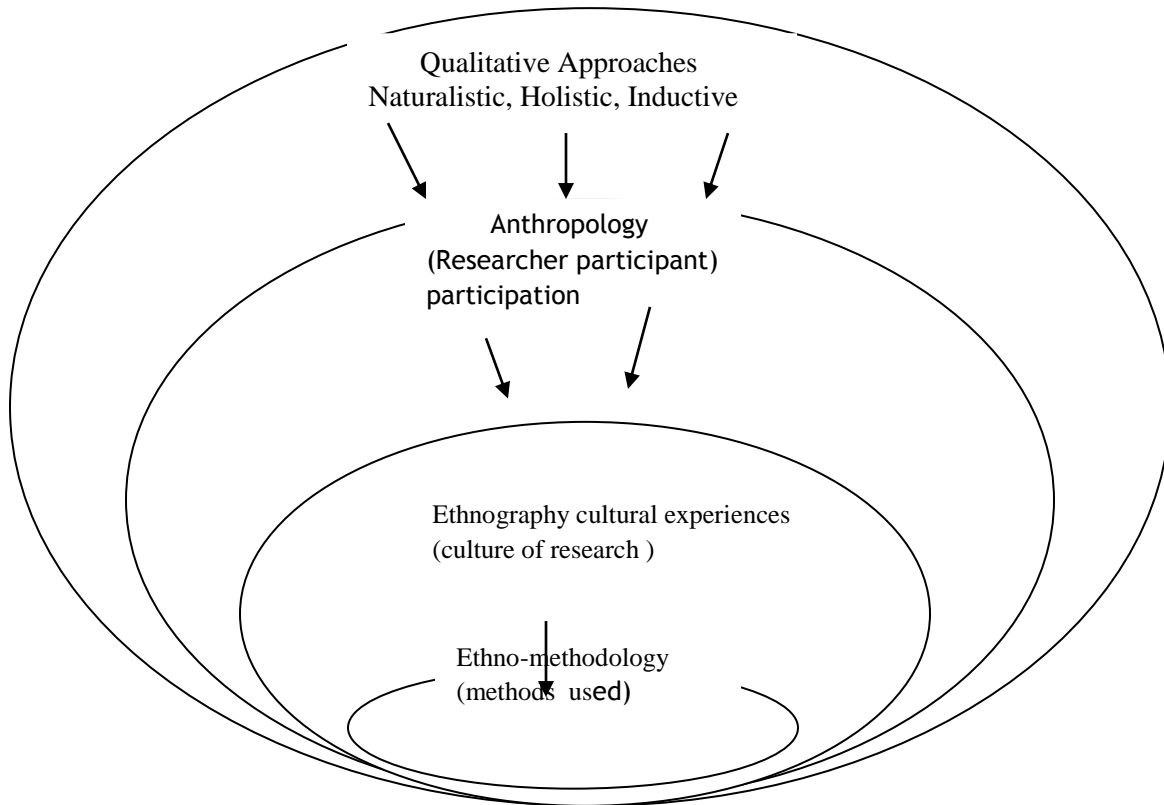
Figure 4.1:   Qualitative Research Design: Researcher's framework

This study's main research question: *'How can universities develop lecturers' research competences?'* is open-ended and calls for a combination of quantitative and qualitative design. Creswell (1998) and Hesse-Biber and Leavy (2011) suggest that qualitative research questions begin with the interrogatives: 'H*ow? why?* or *what?'*

Qualitative study research questions are open ended suitable for inductive studies. This view implies that the solution to the research problem requires an analysis of multiple realities from the researcher, those individuals affected by the problem, the organizational context and the audience interpreting their experiences during the study. Multiple realities also demand the application of both quantitative and qualitative approaches. This is the qualitative ontological view of reality. It is a subjective synthesis of contributions from different angles. According to Baxter and Jack (2008), the advantage of exploring a phenomenon within its context using a variety of data sources is that a variety of lenses allow multiple facets of the problem to be revealed and understood. White (2005) requires reality to be the one constructed by the individuals involved in the research situation. This perception requires knowledge to be generated through action research analysed and presented using both quantitative and qualitative approaches. Pedler and Christine (2013) suggest that approaches where the intent is individual performance improvement include auto action learning and action mentoring or coaching.

A justification for action research for this study can be found in Laws, Harper and Marcus (2003: 338). They suggest that, for action research, research questions arise originally from the experiences of people working in the field and reflecting on their work. In this case, research questions arise from lecturers' experiences. This study's design was guided by Laws, Harper and Marcus (2003: 339) who classify action research as a qualitative research method which involves introducing a new practice in the system and then testing its effectiveness during the model implementation phase. The study is regarded as a kind of experiment in real-life settings. In this study's action research, model implementation is the real test of the intervention.

Hesse-Biber and Leavy (2011) emphasize that qualitative researchers view the social worlds as being continually constructed through human interactions and rituals as illustrated by Metodi's (2007:31) Centripetal Description of Concept Understanding Model. Human interactions call for group activities during model implementation. This angle portrays reality as a subjective social construct. This ontological assumption implies that the study of social issues like the development of lecturer research skills can be done by participant observation or action research in participants' natural environments. The nature of this study, problem, research question and

sources of data show that this study will be guided by a combination of quantitative and qualitative research design. Ritchie and Lewis (2006) sum up this factor by proposing that the fluid nature of information or evidence required should lead to a choice of both quantitative and qualitative approaches.

Other factors considered necessitating the use of both quantitative and qualitative research designs in a study seeking methods for the development of lecturer research skills include the following:

1. The purpose of the study is to understand the problem of low lecturer research for publication in the context of a university. The qualitative approach is selected to enable the study of individuals in their natural setting (Creswell, 1998). The natural setting allows the researcher to establish the contribution of environmental factors to the problem or its solution. Analysis of quantifiable factors needs quantitative approaches.

2. The topic needs to be explored (Neuman, 2000). There are no theories available to explain the behaviour of participants of the study. Models need to be developed. In addition, Creswell (1998) justifies the use of qualitative approaches when variables cannot be easily identified. In this case factors affecting lecturer research output were found through surveys and presented using quantitative methods.

3. The study requires a holistic perspective. Qualitative research assumes that a whole phenomenon is under study and that a complex system cannot be meaningfully reduced to several variables and linear causal relationships. Patton (2002) advises that portrayal of holistic settings to facilitate greater attention to be given to nuance, settings, interdependencies and context. Exploring factors influencing lecturer research output at Mentors University added contextual factors to the problem to provide a holistic perspective.

4. In this study I, the researcher, is an active participant who takes the roles of mentor, learner and researcher. White (2005) encourages researcher involvement in qualitative research as a collaborator. They are part of the situation. These roles can be facilitated by qualitative studies in which the researcher is the key instrument (Chisaka and Vakalisa,

2009). According to Nyawaranda (2003), the fluid nature of qualitative approach allows the researcher to incorporate new variables and informal social interactions when the need arises. Seale (2005) requires that subsequent data collection be guided by emergent theory of findings. The analysis of data feeds into the research design. The flexible methods fit well with Lave and Wenger (1991) situated learning for the workplace. The learning should be through informal social interactions rather than by planned mechanistic processes of cognitive transmission (Cox and Morris, 2004).

5. The researcher has a strong commitment to study a problem that demands time and resources as required by Creswell (1998). The discussion so far shows that the qualitative research design was adopted for this study because of its view of knowledge as a subjective synthesis of multiple realities which tallies well with the study purpose, population and problem. Quantitative approaches were found ideal for accurate analysis and detailed interpretation and description.

6. This study is descriptive and concerned with process rather than product and outcome. As a result, combining quantitative and qualitative approaches enhances understanding and describing dynamic and complex processes in a system. The study is concerned with '*what?*' and '*how?*' questions about lecturer research output. Specifically: *What methods or model can be used to improve lecturer research output? How can the model be applied?*

7. Research involves fieldwork which implies that the researcher has direct and personal contact with the affected people in their natural settings. In this study, I conducted fieldwork with participants through model development, testing and evaluating it in its natural setting.

8. The process of research is inductive. In this study, the qualitative approach is exploratory and focuses on discovery. This study collected data through surveys (which require quantitative presentation), documentary analysis, intervention and then a modified inductive analysis to identify and characterize emerging categories and interrelationships in the problem.

Linking these assumptions to the study problem and study methods demonstrates that a combined quantitative and qualitative approach is appropriate and dominates this study. The complementing quantitative and qualitative research design is justified in the next paragraph.

4.2.1 Rationale for a Combined Design Approach

A study's research design is influenced, mainly by the research problem, researcher's philosophy and research questions. This study which sought ways of developing lecturer research skills was guided by a combination of the advocacy and participatory and pragmatic philosophy. The next paragraphs explains how each of the factors contributed to the rationale for applying a combination of quantitative and qualitative approaches.

As a general observation, Denscombe (2010:148) advises that a good social research will always mix qualitative and quantitative methods to adequately answer the research questions. Naturally, the dimensional complexity of the research questions (what and how?) called for the application of a combination of qualitative and quantitative research approaches. Qualitative research in the form of surveys responded to the what? Quantitative questions explained the how? In this study, mixed methods enhanced the complementary strengths of both methods and reduced their overlapping weaknesses. Sammons et al (2005) justify the use of mixed methods in situations where, "complex and pluralistic social contexts demand analysis that is informed by multiple and diverse perspectives." Inferences from their findings were strengthened by the use of a mixture of methods. In this study, the complexity of the problem demanded the use of mixed methods.

According to Kemmis and Wilkinson (1998), advocacy and participatory research contains an action agenda for reform (developing lecturer research skills) that may change the lives of the participants, their institution and the researcher. Mansoor (2008) proposes that advocacy researchers view the mixing of methods as research methods integration. In this study research methods were integrated to facilitate the integration of both pre-determined and emerging methods and themes. Creswell (2007) notes that when method integration is applied, statistics and text analysis can be applied in the same study. A cross databases interpretation and

integration of data at different stages of inquiry can be done. Findings from document analysis, surveys and interviews were integrated in this study due to the application of mixed methods.

Sammons et al (2005) coins mixed methods as method triangulation. In this study document analysis, interviews and model implementation (intervention) were triangulated to ascertain how different methods check, validate and corroborate one another. The mixed method approach helped to elucidate the problem of low lecturer research development from different vantage points. The convergence of different analysis to the same conclusion assisted in validating the research findings. Mixed methods in this case were used to validate findings in terms of their accuracy, checking for bias in research methods and guiding the development of research instruments.

In this study, qualitative methods brought the strengths of sensitivity to contextual meanings, in depth study of smaller samples (five mentee lecturers) and greater methodological flexibility which enhanced the study of processes and change implementation by mentoring. On the other hand, quantitative research brought the strength of conceptualising variables, profiling dimensions, establishing publication trends and survey of large samples.

Since the study intended to solve a problem, pragmatism informs the study that, the key criterion of judging knowledge is its usefulness and how well it works when applied to the practical problem. To that end, the study used a method that was appropriate for the task. Denscombe (2010) argues that there is no single, best scientific method that can lead the way to indisputable knowledge. In this respect, study feasibility called for mixed methods. They were applied for elaboration and expansion of findings. Qualitative data from interviews explained how patterns based on quantitative data analysis apply in this particular case. Implied is the observation that one type of data analysis adds to the understanding of the other. Qualitative data enhanced understanding while quantitative data improved accuracy and precision.

In this study, mixed methods were applied in sequence. Qualitative data (surveys to understand problem trends and context) initiated hypothesis and emerging research questions which were

pursued using quantitative methods involving hypothesis testing. The purpose of the study (understanding the context and testing an intervention) determined a combination of research methods. The research strategy was devised to suit a particular purpose.

Other benefits of using mixed methods considered include the realisation that mixed methods provide an opportunity for the researcher's research skills enhancement. While I was familiar with quantitative research methods, application of mixed methods extended my knowledge to qualitative and integrative methods. It promoted lifelong learning in research by widening his repertoire of research methodological expertise. Brannen (2005) called it thinking outside the box. I was liberated from focusing on qualitative or quantitative methods as the best method to answer the research question. Here mixed methods are determined by practical rather than disciplinary considerations. The other benefit considered is that mixed methods communicate with both qualitative and quantitative researchers. In addition, the study is a case requiring the best method for the purpose as justified in the next paragraph.

4.2.2   The Case Study Method

Several researchers define a case study from various angles. Smith (1999) considers a case study as a *bounded* system in which behaviour is systematically *patterned* and certain features can be consistently recognized. Neuman (1992) defines a case study as the investigation of that *single instance* in the *context* in which it occurs. Robson (1993) regards a case study as a strategy for doing research which involves an empirical investigation of a *particular* contemporary phenomenon within its *real-life context* using *multiple sources* of evidence. Stake (1995) perceives a case study as the study of the *particularity* and complexity of a single case, coming to understand its *activity within important circumstances*. Yin (2003) suggests that a case study is an *empirical inquiry* that investigates a contemporary phenomenon within its *real-life context*. From these definitions I noted that a case study should be delimited. The boundaries can be in the form of the problem (case) itself, the affected population (participants) or the physical boundaries (institution). A case study is therefore an empirical inquiry into a single entity, using

several data collection methods within the entity's real-life context. The need for several data collection methods dictates a mixed research methods design.

In this study of developing lecturers' research competence the boundaries included: the conceptual boundary of the problem (development of lecturer research competence), the population boundary (lecturers) and the institution boundary (Mentors University). Since the study was confined to one institution and one problem area, these definitions made it a case study. Its aim satisfies Yin (2003) who claims that the distinctive need for case study research arises out of the desire to understand complex social phenomenon within a particular setting. The complex social phenomenon requires a researcher who thinks outside the box by using a method that suits the problem best rather than a discipline based focus.

Case studies can be classified according to functionality, attributes and analytic outcome. Stenhouse (1985) has four case study categories:

(a)   The ethnographic case study aims at deducing structural patterns of the participants. The researcher studies from an insider view. This role and data collection methods are influenced by positivism which is catered for by mixed methods.

(b)   Evaluative case studies aim to evaluate the success or failure of interventions. They are used to provide feedback to policy makers on monitored programmes. While this study's purpose is not to evaluate, the intervention model has individual evaluative activities within it. Its implementation requires a combination of quantitative and qualitative methods.

(c)   An action research case study intends to solve current problems using feedback to an action to guide revision of that action. According to Laws, Harper and Marcus (2003), if the purpose of the study is to introduce a new practice and testing how well it works, it satisfies the requirements of an action research case study. This study satisfies the action research criterion because it is introducing a model for lecturer research competence development and testing it within a university setting.

Yin (2003) has three types of case studies categorized by their analytical level of the study outcomes. These are:

(a)   Exploratory case studies which aim at defining the questions (qualitative) and hypotheses (quantitative).

(b)   Descriptive case studies which aim to present a description of a situation within its context. This study fits into this group. It describes lecturers' situations regarding the publication of research papers. According to Yin (2003) this study falls within the descriptive case study.

(c)   Exploratory case studies explain cause-effect relationships and discover theory. These cases studies can be found in quantitative studies.

Robson (1993) distinguishes six types of case studies by the number of participants involved in the study. The categories are:

(a)   Individual case study focuses on one person or one institution. Its aim is to explore causes and processes that affect the individual in context (this can be achieved through interviews). This study falls within an individual (single problem, low research output) case study. Its purpose was to explore the process of lecturer research development competence. Yin (2003) suggests that a single case design is warranted on the basis that the case is revelatory. There is a belief or assumption that the problems discovered in a particular case are common to other cases as well. Actually, the problem of low research output by lecturers can also be found in other universities. This study reveals factors contributing to the problem and possible solutions.

(b)   Set of individual case studies refers to a small group of individuals with a common problem being studied together. This study also satisfies this condition since participants have a common problem (low research output). While they are individuals themselves, they are considered as a group due to the common problem, hence the need for a group mentoring strategy.

(c)   Community case studies are descriptive. They study people as a group (community). This study can be classified as a community study. The university is a community in its own right. People belong to it for a purpose. They have a culture that governs their behaviour. Research cultures can be studied by ethnographic strategies nested in qualitative methods.

(d)   Social group studies consist of direct contact groups and their relationships.

(e)   Events, roles and relationship case studies are limited to a study of specific events.

Stake (1995) condensed case studies into two. They were classified by purpose as:

(a)   Intrinsic case studies which are carried out to gain an understanding of it through qualitative approaches. The interest is in the case itself. This study is intrinsic in that it is carried out to understand lecturers' research competence development.

(b)   Instrumental case studies are carried out to understand a particular case for a purpose. A particular case is examined to provide information on issues or refinement of a theory.

This study served both intrinsic and instrumental purposes. One research goal was to develop a holistic understanding of the development of a model for lecturer research competence. The study explored and described a particular process. Documenting and understanding the development of lecturer research competence were valuable for its own sake, thus the study served intrinsic purposes.

The study is instrumental to the extent that it sheds light on problems and issues that may be common to other universities. The study explored and described a particular process of developing lecturer research skills. The derived model may have utility (instrumental) value in the development of lecturer research competence. One can conclude that as a revelatory case, the study of lecturer research competence development was aligned with Stake's (1995) suggestion for a case study to serve instrumental purposes.

This study aims to find ways of improving university lecturers' research output in the form of publishable papers. Its main research question is '*How can lecturers' research output be*

improved?' According to Yin (2003) a case study should be considered when the following four conditions are satisfied:

(a)   The focus of the study was to answer '*how*' and '*why*' questions. This condition is already satisfied by the nature of the research questions guiding the study, which require mixed methods.

(b)   The behaviour of the participants cannot be manipulated. In this study, the participants are lecturers. The study does not use an experimental design in which conditions are manipulated to establish cause and effect. The participatory action research applied is carried out within participants' natural settings to allow contextual factors to operate in their natural way.

(c)   Contextual conditions are expected to influence the problem and intervention. This study case is 'development of lecturer research skills'. It cannot be separated from its university context. That university's research policies will naturally influence lecturer research, hence the need to study with participants in their institutions.

(d)   Boundaries between the problem and the context are not clear. This is true for participants at Mentors University.

Stake (1995) adds that a case study is ideal when an opportunity to learn is the primary study purpose. This study is a learning activity in its own right. As part of the doctoral study solving a real life problem by participatory action research, both I as the researcher and participants were learning. The discussion so far funnels to the conclusion that this study satisfies several conditions of case studies hence it is a case study itself requiring the application of mixed research methods. Punch (2005) advises that mixed research methods can be seriated. The researcher needs to understand the problem and its context before developing a possible model. Understanding is also important before measuring the problem's distribution and prevalence. For this study, the first phase of understanding the problem can be carried out using qualitative methods (survey followed by interviews). Its second phase was quantitative (developing an instrument, raising hypotheses for surveys and testing them).

4.3   BACKGROUND TO THE RESEARCH SITE

Mentors University (MU) was established as part of the recommendations of the Chetsanga Commission to upgrade technical colleges into degree awarding institutions in Zimbabwe. The name Mentors University is a pseudonym used as an ethical requirement to protect institutional interests. According to Nherera (2000), Mentors University began operations in 1999 under the auspices of the University of Zimbabwe technical degree programme. Mentors University Act number 15 of 2001 resulted in the institution operating as a fully-fledged university in 2002. This institution is at present twelve years old (2014).

The 2006 to 2009 hyper-inflation which struck Zimbabwe resulted in grave brain drain. Most highly qualified academics with research expertise left the country. As a result most universities were left with a lecturer corps without the necessary qualification and also without the research skills to write publishable research papers. The majority of the lecturers have a masters' degree as their highest qualification. In addition these lecturers were quickly weaned off by the mother University of Zimbabwe before their research skills were developed. The university has no policy focused on the development of lecturer research skills. As a result Mentors University was purposefully selected as a rich source of the problem. It had lecturers willing to solve their problem of low research output in the form of publications. I, the researcher, am a lecturer in the university; this was critical for the accessibility of participants and implementation of informal mentoring programs.

4.3.1   The role of the Researcher

4.3.1.1 The Researcher (mentor) Profile

According to Terrion and Leinard (2007) research mentors should have a record of successful research mentoring, should be currently conducting research and have a record of research publications. Megginson and Clutterbuck (2009) and Mudhovozi, Manganye and Mashamba (2013) add the need for the mentor to have experience and skills in writing and reviewing

research papers. Chao (2005) supports a local mentor when he/she pointed out that outside mentors may not be effective. These sentiments from literature and Carvin's (2011) need for mentor introspection necessitate my brief research biography in the next paragraph.

I am 53 years old (2014). I started research project supervision in 2003 at Mutare Technical College. In 2005 I joined Mentors University as a Research Methods and Statistics lecturer. That enabled me to read the research methodology literature. I was tenured in 2008 and promoted to senior lecturer in 2009 due to my success in publications. So far I have 48 publications in different refereed journals. I have supervised research projects on undergraduate and masters' level. My success in research publications has earned me respect and expert power among other lecturers in the university. I have attended several certificate courses in research methods, which contributed to the development of my competence in research. Certificate in Research Supervision and Mentorship deserves mention here. My research profile is shown below:

1. Certificate of paper publication (ISSN 2279-0845)   (JOSR - JHSS)-2014
2. Certificate of paper publication (ISSN 2278-0211)   (IJIRD) - 2014
3. Certificate of paper publication (ISSN 2319-9725)   (IJIRS) - 2014
4. Certificate in Epidemiology Research (Centre for Health
   Education   (UZ) - 2014
5. Certificate in Research Supervision and Mentorship,   (COSSA) - 2013*
6. On Line Journal Editors' Certificate   AJOL - 2012
7. Author AID Research Writing Skills Certificate   UZ - 2011
8. Certificate in Social Research Methods   UZ - 2010
9. Peace and Leadership Research Certificate   AU - 2009

In addition, I have also participated as:

1. Reviewer for *International Journal of Education and Practice* (IJEP)
2. Reviewer for *Zimbabwe Journal of Educational Research* (ZJER)
3. Reviewer for *International Journal of Educational Sciences* (IJES)

4.	Guest Editor: *Zimbabwe Journal of Educational Research24* (2) July 2012

5.	Editor for *Zimbabwe Journal of Technological Sciences* (ZJTS)

As a result of this exposure, I have a wealth of experience from which to draw and to share with mentees and other mentors. Participants are also aware of my experiences and competence in research and publications. My age is also an important variable for participants of this study. It facilitated the treatment of participants as colleagues rather than learners. A relationship at the same level was encouraged under communities of practice (Wenger, 1998). It is clear that I have the competence to mentor others in writing articles for possible publication although I have not obtained my doctorate degree. Such peer mentoring is based on the European context in which the mentor is not necessarily a more senior person but an expert in the needs of the mentee (Wentling, 1992).

4.3.1.2 The Roles of the Researcher (Mentor)

My roles at each stage of this study were guided by the rationale of participatory action research and communities of practice. According to Blanche, Durkheim and Painter (2006), participatory action researchers believe that knowledge of the human and social world can be gained in the process of attempting to change that world. Emphasis is on communal participation in the creation of knowledge, hence researching with them rather than researching them. Communal participation calls for voluntary engagement and application of informal channels of communication.

Since the study is guided by both quantitative and qualitative methods, Nyawaranda (2003), Chisaka and Vakalisa (2009) concur that the researcher is the key instrument for collecting qualitative data during action research. Implied in this is the fact that, I was the key instrument for data collection and analysis.

During problem identification, I assumed the role of a researcher collecting evidence of the problem, its magnitude and affected population through surveys and desk research. I also

assumed the role of a research commentary through reflective analysis of captured data. Participants were part of the target population for the survey of factors influencing lecturer research output in new universities in Zimbabwe. I combined information from documents read during literature review with suggestions from surveys to structure informal group mentoring research skills development model.

During the implementation of the model, I assumed the roles of mentor, counsellor, friend and group facilitator during presentations. I acquired the friendship status through informal contacts with participants during lunch, in the staff bus and portal communications. Equally important is my role as a research collaborator. I organised mentoring meetings with mentees and participated in their studies as a research collaborator and resources provider. The other role is that of a research evaluator and peer reviewer for the dummies and participants' research papers.

4.4 ETHICAL CONSIDERATIONS

Gilbert (2008) proposes that ethics is a matter of principled sensitivity to the rights of others. Observation of ethics limits the choices researchers make in the pursuit of knowledge and truth. Leedy (2004) demands that ethics involved in the use of human subjects in research projects require careful scrutiny. According to White (2005), the Code of Research Ethics is based on four principles which should be upheld and respected by researchers in all situations. These principles which guide the presentation of ethical issues in this study are participation, transparency, professionalism and accountability. Each of these principles is discussed in the paragraphs below.

Participation

This study, in which all participants are adults, ethical issues were observed by:

1.   Working with a volunteering group of participants as required by Wenger (2007).

2.   Referring to 'participants' rather than 'subjects' and 'participate' rather than 'use' because people are not tools.

3.   For all surveys, participants did not include their names as an adherence to anonymity.

4.   Participants also benefited from the publications they did during the study.

5.   In this study, pseudonyms for the case university and participants are used. Pseudonyms also appear on their research papers' abstracts although it can raise issues of their authorship rights.

6.   Informing participants that the purpose of observing their activities during the cycles is to document their activities for a PhD study.

7.   Participants were free to withdraw from the study at any time when they felt like.

8.   Under community of practice, this study was carried out 'with' participants and not 'on' participants.

Transparency

According to Ritchie and Lewis (2006), transparency focuses on participants having full knowledge of the study. In this study:

1.   Participants were briefed of the aims of the study, its process, anticipated outcomes and use of results during the first mentoring meeting. This was clarified by going step by step through the model.

2.   Participants were also informed that they needed to be committed and expect the study to demand time and expenses in the form of refreshments during meetings and typing costs. This satisfied Kermis (1988) and Hamersley (2007: 172) who note that praxis has its roots in the commitment of the practitioner to action in a practical situation.

3.   All published work was peer reviewed and given to possible beneficiaries.

4.   All participants were informed that each of their papers will be submitted to a journal for peer review and possible publication. This is the last part of the mentoring model process required for evaluation and quality control. It provides study scrutiny by their peers and academic public.

Professionalism

In this study the researcher ensured research professionalism by:

1.   Seeking the approval of the Director of Mentors University on behalf of the Institute.
2.   Working on a study which solves one of the organization's problems (low lecturer research output).
3.   Taking a participatory approach to research by including community members (lecturers) in the research process. This ensured that the research addressed issues of importance to the community.
4.   Submitting a copy of each publication from the study to the Director of Research and Resource Mobilization and Mentors University Library.
5.   Submission of all possible papers derived from this study for journal peer review is a measure to ensure that the highest level of scientific quality is achieved in the research.
6.   The group- mentoring research skills development model includes oral presentations to peers and peer input through discussions to improve the quality of research.

Accountability

Accountability for research ethics entails the responsibility of the researcher to anything arising as a result of the study. The researcher ensured accountability by:

1.   Seeking permission which informs authorities of the study and my unconditional acceptance of outcomes during the study.
2.   Publishing studies from this PhD research. In my name as principal author, I am accountable to the public and the academic world at large.
3.   Co-publishing participants' work with the researcher as second author is again a way of accepting accountability for the process and outcomes of the research.

The section below discusses the three different phases of data collection that were conducted in this study.

4.5   PHASE 1: DOCUMENT ANALYSIS AS DATA COLLECTION

This study made use of qualitative methods guided by Punch's (2006:17) model of research designing. It is composed of two parts, the pre-empirical stage (mainly literature) and the empirical stage for lecturers' views, intervention implementation and evaluation. Desk research was considered ideal for information of a concept that those around are not sure of. The study's research design which combined qualitative and quantitative approaches allowed me to include document analysis findings as data and benchmarks for the empirical stage.

According to Gribbs (2002), document analysis is the extraction of content and meaning from documents. It is a social research method and an important research tool. The researcher carried out content analysis to supplement participant observation and define the history and context surrounding lecturers' low research output at Mentors University.

The researcher considered six advantages of the written record. First, content analysis is formal and systematic. It lends structure to any research combining qualitative and quantitative approaches. Variables are categorized in a precise manner to facilitate counting and quantification. Second, the documents (research policies, research board minutes, dummy papers, mentees' papers and peer-review comments) are readily available and accessible to the researcher at no cost. Third, content analysis allows access to subjects who may be difficult or impossible to research through direct personal contact. In this case, policy documents and minutes of meetings enabled me to access research policy makers' decisions when they were not present. According to Marshall and Rossman (2006) content analysis is an unobtrusive method rich in portraying the values and beliefs of participants in the settings. Fourth, content analysis is unobtrusive and nonreactive (Seale, 2005). It can be conducted without disturbing participants or the setting. The researcher decides on the centre of emphasis after data gathering and analysis. Fifth, some records have existed long enough to permit analyses of decisions made on research

issues and their implications over time. Sixth, written records allowed me to increase the sample size above which was possible through either interviews or direct observation.

The following disadvantages of the written record were weighed against the advantages in the previous paragraph. Firstly, record keepers may not preserve all materials pertinent to the study but rather selectively save those that are the least embarrassing, controversial, or problematic. This bias was reduced by comparing findings from document analysis with those from interviews and surveys (data triangulation). Secondly, large gaps in time exist in many archives due to loss of records or failure to collect records. In addition, some written records are classified documents and as such inaccessible. This was overshadowed by the observation that Mentors University is only twelve years old. All documents are still found in their respective offices. Thirdly, written record content may be biased by inaccurate or falsified record keeping, either inadvertently or on purpose. Triangulation of content from different sources reduced the recorder biases. Fourthly, the written record may lack a standard format because it is kept by different people for different purposes. Guidance from the research questions themes focused the researcher on the required content. Following the steps in the next paragraph helped to focus the researcher on essential elements of each document's content.

Content Analysis Steps

Content analysis involves several distinct steps. The **first step** is selecting materials relevant to the research subject (lecturer low research output). This determination of the sampling frame was strongly based on research objectives in chapter one. It was followed by the sampling of the actual material to be analyzed from that sampling frame. There are limited books in libraries in Zimbabwe, which focus on the development of lecturer research skills. I supplemented these by purposive sampling of internet material. I used the terms, such as "models for competency development", "Lecturer research output", "factors influencing lecturer research" and "university research policy", to search for relevant documents on the internet. Then documents critical to this study were policy documents related to research.

The **second step** was to define the categories of content which were considered. The inclusion criterion of such purposive sampling of documents was delimited by two dimensions, namely: having the variable (content on any of the research question themes) and being available and accessible in print or on the internet.

The **third step** was the validation of the policy documents by answering these four critical questions. *First question:* is the document genuine, complete, reliable and of unquestioned authorship? This is an authenticity issue. It mainly arose from research policy documents accessed from the internet. I confined myself to reviewed journal articles and those whose authors are academics. Newspaper articles were rarely considered for factual information. *Second question:* is the document free from error or distortion? This was a credibility issue. I regarded reviewed published documents and circulated minutes as credible sources. Any research policy documents from the internet which had no author or academic institution affiliation were not regarded as credible and excluded from the study.

Third question: can the documents available be said to constitute a representative sample of the documents that originally existed? To cater for representativeness, I carried out extensive and intensive reading to a content saturation point, when no new content and research policy variations seem to emerge.

Fourth question: what is the surface meaning of the research policy? Is there a deeper/semiotic meaning? I used personal literal skills to attach meaning to the content. This was complemented by discussions and interviews with participants (members of the research committee). The overall aim was to deduce the truth by consensus.

The **fourth step** was to choose the recording unit. This was mainly by qualitative recording of the content or its summary. These were captured in sections according to the theme that they complement. For example, themes such as the university research areas, strategies for promoting lecturers' research output and factors affecting lecturer research output or models for developing lecturer research competencies were derived for the study conceptual framework.

The **final step** was weaving the content of each theme into a narrative presentation of the findings. Semi-quantitative results using cross-tabulations, charts or graphs and where there are few cases, frequency tables were produced. They were presented as guiding information, results comparison or complementing. In this study, three sets of documents were analyzed as described under each document in the next paragraph.

University Research Policy constituted the first set of documents analysed in this study. First, I sought content which reflected Mentors University provisions for the development of lecturer research skills development. Second, I scrutinised strategies for the implementation of its research goals, resources allocation and success indicators. Third aspect sought was the human, material and financial capacity to support lecturer research skills development. The study found that no policy which focused on the development of lecturer research skills. Mentors University opted to recruit doctoral graduates who had the skills to rather than develop the existing lecturer research skills to improve research output.

Dummy papers structured by the researcher were analysed by both the researcher and mentees as part of the mentoring exercise. Participants analysed them for good writing style and content in publishable papers as per peer blind review sheet (cf. Appendix Three). They were also intended to provide bench-marking standards for each mentee. Mentees were required to justify publication of the paper by providing content evidence for the paper to be accepted for publication or rejected. At this stage mentees assumed role of peer reviewer. Although the majority of the mentees managed to identify the three publishable papers, they tented to rate them as satisfactory.

Mentees' papers were analysed at two levels. First, the papers were reviewed by mentees themselves as peer-reviewers then by journal peer-reviewers and editors. They assessed the paper content, writing style, and a paper's weaknesses and decided whether the paper should be published or rejected. This was part of the intervention's activities. Although all mentees' papers whose abstracts are included in Appendix Four (M1 to M5) were published, weaknesses which

were corrected included the statement of the research problem, the research design and application of probability sampling methods.

4.6   PHASE 2 and 3: FIELDWORK, EMPIRICAL INVESTIGATIONS

4.6.1   Background to Fieldwork, Empirical Investigation

This study's fieldwork and empirical investigation was conducted in two sequential phases, namely a baseline survey and model implementation. Each of them was conducted concurrently with interviews for clarification of issues raised. Although participants were lecturers from Mentors University, different samples of lecturers participated in each of the two data collection phases. They are described in the next paragraphs.

4.6.2   Phase 2: Surveys

Macilika (2012) defines a baseline survey as an analysis of the current situation to identify the starting points for a program or project. Consequently surveys form the first steps in exploratory studies. The purposes for carrying out surveys in this study include; assessment of the circumstances in which the mentoring program commences and a frame of references for subsequent comparison of lecturers research skills development. Hence surveys provide a basis for assessing the efficient implementation and results of the mentoring program.

Exploratory studies are marked by baseline surveys (Mustafa, 2010). In this study, baseline surveys were carried out at Mentors University using the questionnaire. Surveys enable the researcher to come into contact with the population under investigation. They provide strategic information about a practical problem such as lecturers' low research output at Mentors University. In addition, surveys provide an opportunity for the formulation of an intervention such as the mentoring program to solve the problem. Creswell (2007: 145) proposes that surveys should be used to provide quantitative and qualitative descriptions of the prevailing situation. In this study, surveys were carried out to establish prevailing conditions and practices that influence

lecturer research output at Mentors University. According to Marshall and Rossman (2006), surveys extract data from large samples which can be generalised to the population. This study gathered data from two purposive samples described in the next paragraphs.

4.6.2.1 Population and Sampling

The population of this study is composed of lecturers in universities. These are required to publish or perish. Their promotion is based on their ability to publish. These considerations render them rich sources for the study's variables. In fact, variables such as factors influencing a lecturer's publications are sensitive and personal. They call for purposive sampling.

Sampling is a critical element in determining the validity and reliability of findings derived from the samples. White (2005) defines sampling as a selection from the sampling frame in order to identify the people or issues to be included in the research. The definition has two important variables to be considered for the selection of participants. First identification of participants (lecturers) and then the issues (lack of a publication). Kothari (2004) regards sampling as the process of obtaining information about an entire population by examining only a part of it. Gilbert (2008) simply regards sampling as a process of selecting a sample or participants.

Two-hundred and sixty (260) lectures were purposively selected to participate in the survey. They responded to the self-reporting questionnaire. The reason for their selection was that they possessed knowledge of factors affecting lecturers' research output at Mentors University. They all have had a number of years of teaching experience at the university. As such most of them had knowledge of the university research policies, and their effects on lecturer research skills development, as well as environmental factors which might hinder such developments. The sample size (n = 260) was large enough for findings to include all possible variables.

4.6.2.2 Questionnaire Format

The questionnaire was found to be ideal for this survey phase of data collection when the following were considered. First, lecturers are literate. They can understand research questions and record their responses in English. Second, the study required individual lecturers' views on factors contributing to low lecturer research output at Mentors University. Third, questionnaires capture the emotional impact of a social situation through words used by respondents. For example, lectures described the application of the journal impact factor to assess the quality of their research as folly and retrogressive gatekeeping. Fourth, the questionnaire gathered data from a large population (260 lecturers) within a short time (five working days). Ensuring respondents' anonymity encouraged the majority of lecturers to contribute.

The questionnaire (cf. Appendix One) sought respondent's demographic data namely, respondent's age, gender and length of service at Mentors University. These are important for the description and interpretation of findings. Participants' length of service is important for determining the authenticity and reliability of information given. Content questions asked for the respondents' research output (published papers), factors promoting and those affecting lecturers' research output at Mentors University.

Informal desk research discussions motivated the inclusion of two questions. One requiring lecturers' views on the research policy governing lecturers publication of students research findings and the other question seeking lecturers' views on the need to include the journal impact factor for the assessment of the quality of research papers submitted by lecturers for tenure and promotion. These were considered as important emerging issues surrounding lecturers' research output at Mentors University.

4.6.2.3 Questionnaire Administration

Questionnaire administration is part of the data gathering process in surveys. The researcher sought permission to collect data on factors influencing lecturer research output at Mentors

University from the director of research and resources mobilisation. This was granted in February 2013. The researcher structured the questionnaire and pilot tested it with twenty lecturers in the university. Pilot test population was appropriate for this study, because they were employed at Mentors University, had no research publications and volunteered to participate.

Pilot testing was carried out first to determine the adequacy of the sampling frame and gain prior knowledge about the population. For example, I posted 29 questionnaires and received 20 back. This enabled me to anticipate a response rate of 69%. In addition, pilot testing helped to assess the adequacy of instructions, simplicity of language and suitability of the population. Pilot test results were a strong basis for the questionnaire modifications.

I started by distributing 320 questionnaires to lecturers at Mentors University in their offices on Monday, 04 March 2013. I recorded the extension numbers for the lectures who had received the questionnaire and accepted to complete it. I started collecting the questionnaires on Wednesday, 6th March 2013. This gave respondents three days' allowance. Follow-up reminders were also done by phone from Monday, 11 March 2013 up to Friday, 15 March 2013. I had collected 260 completed questionnaires by Friday, 15th March 2013. This was 81% response rate. It was high enough for the researcher to assume that all variables were captured.

Data analysis and Statistical Tool

The statistical analysis was based on the research questions (1, 3 and 4) and the questionnaire of the study. The data analysis followed definite steps. Non-parametric statistics were used and levels of significance between variables determined. The analysis followed these steps:

1. The SPSS and MINITAB statistical software package was used in the analysis of the questionnaire.
2. Ms Excel was used for data entry and plotting some of the graphs.
3. Data obtained from the questionnaire were coded and analyzed using Minitab statistical package. Chi-square tests were carried out to check for the existence of an association

between department and number of publication. This is non-parametric data given in frequencies.

4. In this study questionnaire responses were all recorded as categorical data (discrete data).

    - This limited the study's use of parametric statistics to age and publications and tests. In view of this it was not proper to use the Pearson' correlation. The study then made use of the Spearman's rho rank correlation.
    - The Spearman rho statistic was computed to establish pair wise relationships between lecturers' experiences in ages and the number of publications.

5. The mode of each of the responses was computed and used to determine the prevalence of the variable in the distribution.

The third of data collection involved the implementation of the mentorship intervention model and the interviews to test the implementation process. A detailed discussion of this phase ensues in the section below.

4.6.3   Phase 3: Model implementation (Study Intervention)

This study was influenced by the prescriptive philosophy which seeks to establish standards for assessing values, judging conduct and appraising art (Knell, 1977). According to Barker (1995) a prescriptive philosopher seeks to discover and or recommend principles for deciding what actions and qualities are worthwhile and why they should be so. For example, in this study I sought actions to develop lecturer research skills. A possible informal group-mentoring model for developing lecturer research skills was prescribed. Prescriptive assumptions satisfy the knowledge-building process which must take the centre stage in qualitative research (Hesse-Biber and Leavy, 2011). Mentoring requires action research.

A justification for action research for this study can be found in Laws, Harper and Marcus (2003: 338). They suggested that for action research, research questions arise originally from the

experiences of people working in the field and reflecting on their work. In this case, research questions arise from lecturers' experiences. According to Laws, Harper and Marcus (2003: 339) action research is a qualitative research method which involves introducing new practice in the system and then testing its effectiveness. In this case, the researcher introduced mentoring and at this implementation stage, the model was being tested.

Action research is regarded as a kind of experiment in real-life settings. Its' implementation is the real test of the research skills development mentoring intervention. Mentoring action research should find local solutions to local problems (Zachary, 2000). A clear implication of this is that this study should suggest a local solution to the problem of lecturers' low research output in a university set up. It concludes by evaluating its application by five mentee lectures at Mentors University. The next section describes action taken by either mentor or mentee to develop mentees' research skills.

This study data collection was guided by Routio (2007) normative research project model. It has four overlapping phases: (1) base line surveys to establish problem trends, contextual factors and need for improvement; (2) analysis of relationships and possible strategies for change; (3) formulation of an intervention such as the group mentoring research skills development model and (4) intervention implementation and evaluation. This section presents description of actions taken to implement the model. This is phase (4) of Routio (2007) normative research project model. It starts by describing participants' selection process, the model implementation and concludes by programme evaluation interviews.

4.6.3.1 Selection of participants

This was followed by a purposive sample of five lecturers who participated in the mentoring programme. I posted an advert for participation on the staff portal at Mentors University. The first five lecturers who showed commitment by active participation during the programme familiarization meeting were selected as research participants for the   lecturer research mentoring programme. Last but critical, they volunteered and were committed to the programme.

Voluntary participation in mentoring is encouraged by Chao (2005) and the Australian Catholic University Mentoring Policy (2008). It enhances commitment and satisfies ethical consideration. The sample size five was suggested by Carvin (2011). It is regarded as large enough to allow for a variety of viewpoints and experiences and small enough to allow all members to fully participate as a group. These participants had no publications, hence provided a rich source of data. They were available and willing to participate in the study.

Denscombe (2010) suggests that purposive sampling operates on the principle that a researcher can get the best information by focusing on a relatively small number of instances deliberately selected on the basis of their known attributes. The issue of participants' deliberate inclusion, as noted by Strauss and Corbin (1996) brings in participants selection criterion by characteristics rather than chance. Nyawaranda (2003), Chisaka and Vakalisa (2009) call them rich sources of the variable. For the researcher to identify rich sources he/she must have prior-knowledge of the population.

In fact, Ritchie and Lewis (2006) pointed out that purposive sampling is informed by the aims of the study, nature of the problem and knowledge of participants in the field. These variables centre on study feasibility issues. Small samples were critical for a lecturer researcher being a single research mentor.

Silverman (2006), Gray (2009) and Hesse-Biber and Leavy (2011) encourage the use of small samples in qualitative research in order to:

1.   Facilitate the possibility of getting to a point of diminishing return where increasing the sample size contributes no new evidence. Chinamasa (2012) calls it variable saturation point. It is achieved by including deviant cases.
2.   Achieve the purpose of the study which is not to find incidence, prevalence and generalizations but deeper understanding of the problem in its context.

3.   Satisfy study feasibility in terms of data collection methods. For an ethno-methodology research design using documentary analysis, interviews and participatory action research during implementation of an intervention, a small sample was ideal.

For the research mentorship model intervention, I chose a sample of five lecturers, hence the sample size (n = 5). Too few cases (e.g., 1, 2 or 3) were refrained from for fear of missing key constituencies in terms of the variable within the population. In Australia, a study by Irvine, Moerman and Rudkin (2008) of mentoring accounting academics in research had five participants. In the current study participants were chosen because of their shared experiences in attempting to publish without success. Pseudonyms are used to protect participants' identities as an ethical consideration. This study then has two sample sizes. For the lecturer survey, n = 260 and for the intervention (model testing implementation), n = 5.

4.6.3.2 Informal Group Mentoring Programme Implementation

The main purpose of implementing the informal group mentoring research skills development model was to pilot test it. The rationale for pilot testing a programme is to gain commitment, test assumptions, refine strategy and establish a success story from the practical point of view. Kaplan and Suter (2005) call for the following supporting activities: first implementing the prototype by giving access to the pilot audience or participants. Second but critical, is that the participant researcher should seed the community (group of lecturers learning to research for publication) with content. Aubrey and Cohen (2007) called this sowing. In addition, the participant researcher is expected to facilitate events and activities.

Gray (2009) advises the researcher to participate in this study by informing the design, leading as a research mentor, data collection, undertaking data analysis and presenting findings. Lewin's 1946 seminal paper (in Gilbert, 2008) required that participatory action research be a means of combining experimental approaches to social science with social action. Coghlan and Brannick (2004) call for the combined application of research and action simultaneously. In this study, the model was implemented as described in the next paragraph.

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The informal group mentoring research skills development model (Appendix Two) has five stages. First is mentoring meeting (a). It was mainly dominated by programme familiarisation activities. The mentor/researcher and mentees shared their experiences in research and attempts to publish. The mentor introduced the programme. Participants elected mentees' group leader. Mentees and mentor committed themselves to the programme, got assignment one (desk research task) and suggested meeting dates.

Desk research was carried out by mentees individually. It developed their skills to identify literature sources, summarise and reference. In addition, each was required to present his/her findings as a report. This was to train them to write and present reports during the mentoring meeting (b).

The mentoring meeting (b) was intended to consolidate mentees' perceptions of publishable papers. Each presented his/her findings from desk research. Main themes were qualities of publishable papers and weaknesses of rejected papers. These were complemented by journal editors' presentations on "How to write a publishable paper and why papers are rejected? A synthesis of the presentations led to the structuring of the paper peer blind review sheet (cf. Appendix Three). Each mentee was assigned dummy papers A to E to review within two weeks. At this stage mentees assumed the roles of peer reviewers.

During mentoring meeting (c), mentees presented their ratings for each of the five dummies. They rated each paper's abstract, background, literature, research methods and findings out of five. Of great importance was the mentee's ability to justify his/her decision for the paper to be published or rejected. The identification of evidence from the paper developed the mentee's content analysis and peer review skills. This mentoring meeting allowed mentees to go into the field and research.

Mentees started their data collection in July 2013 to October 2013. Peer review of mentees' papers was done in November 2013. Mentees submitted their papers to different journals for review and publication. All papers were published between January and April 2014. Mentee

paper abstracts are presented in Appendix Four (M1 to M5). The informal mentoring programme was evaluated through interviews with mentees.

4.6.3.3 Programme Evaluation Interviews

Programme evaluation for participative research interventions requires input from participants and the researcher. In this study, I interviewed each of the five lecturer mentees separately. They were interviewed from June 9th, 2014 to June 13th 2014. The interview guide consisted of both open and closed ended questions. While closed ended questions calls for easy categorisation, they also allow for a quicker categorization of responses (Robson 1997:147). Open ended questions by their nature develop trust, are perceived as less threatening and allow an unrestricted or free response (Robson 1997: 147). In this study the open ended questions were developed to achieve this and also captured the complexities of the interviewees' perceptions and experiences about the matter.

The interview was guided by the interview guide in Appendix One (b). The interview transcriptions are in Appendix Five. Mentees were allowed to do much of the talking. Interview data were tape recorded and I took notes during the interview process. Interview data was transcribed soon after the interview and data was coded according to themes. Mentees were asked to read the interview transcriptions and confirm them as a correct record of what they had said. I interviewed one participant per day and recorded the transcription after the interview. The diagram below summarises data collection process described.

4.6.3.4 Summary of Nested Data collection process.
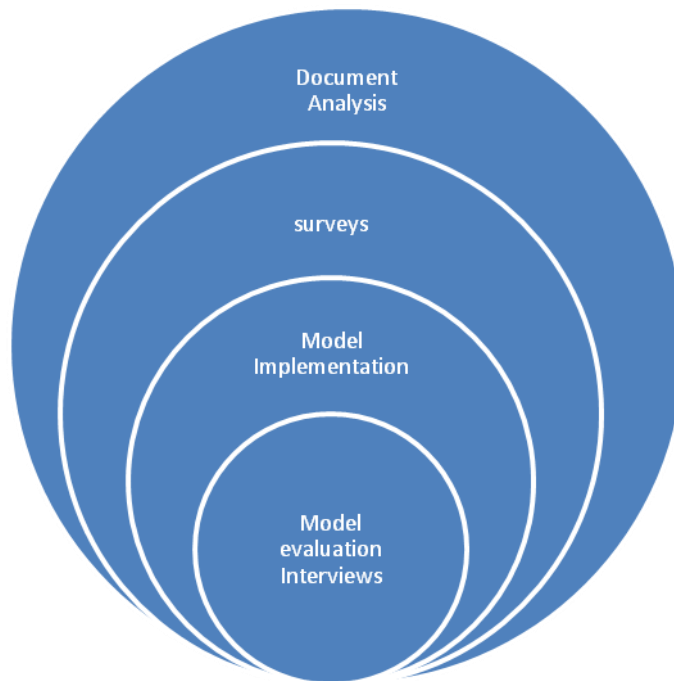
Figure 5.1: Shows that document analysis informed surveys (gap identification, nature of instruments and sampling), model formulation and implementation strategies and was a basis for the final model evaluation interviews. Findings from this data collection process are analysed and presented in the next paragraph.

4.6.3.5 Data Presentation and Analysis

Qualitative analysis provides richness and detail to the data. Unlike the use of the mean which is a number, in this study consensus descriptions are presented to help the reader make his/her own evaluations. Deviant explanations of the same event are captured by direct quotations, to reflect the social reality of the phenomena being investigated. The study has prospects for alternative explanations. This allows for different researchers getting different conclusions despite using broadly the same methods. Qualitative data and analysis are grounded in reality. The problem is real. Participants are in their everyday work life activities and can implement findings. Denscombe (2010) suggests that data and the analysis have their roots in the conditions of social existence.

The main purpose of this study was to find ways of developing lecturer research skills for publishable papers. Its application of qualitative data collection allows it to use a fluid data collection and analysis contingent with the required variable (Nyawaranda, 2003; Walliman, 2005). Data analysis was mainly guided by content analysis. The main purpose of content analysis is to reveal hidden messages expressed in written or oral words. It is based on the understanding that the spoken word is a reflection of what is in the mind. Verma and Mallick (1999) Walliman (2005) and Denscombe (2010) concur that content analysis is systematic description of the content of documents.

Qualitative data collection for this study was in the form of: (1) assignment written reports for mentoring meeting (a); (2) paper review reports at mentoring meeting (b); and (3) a paper for publication in mentoring meeting (e). In each of these papers content analysis was applied. Literature revealed the qualities of publishable papers in two main nominal categories of content (good acceptable papers and rejected papers). Specific lists of weaknesses were generated and presented in a table to form a peer review guide.

During review of dummy papers, participants identify two main categories, namely strengths and weaknesses. They recorded each paper's strengths and weaknesses in frequency tables. Percentages are applied to facilitate comparison and decision for rating the papers as publishable or not. A combined group report for each of the five dummies was done to provide a record in both quantitative and qualitative form. Programme evaluation interview transcriptions are presented in Appendix Five (mentee 1 to mentee 5). Their essential points are summarised and presented as qualitative data description of findings in chapter five.

4.6.3.6 Trustworthiness of Data

According to Blanche, Durrheim and Painter (2006), validity refers to the degree to which the researcher conclusions are sound. Gray (2009) considers validity as the degree to which data in a research are accurate and credible. The descriptors, '*degree, sound* and *credible*' in the definitions render validity to be a relative and subjective concept depending on whoever is

determining it. Gilbert (2008) noted that measurements are valid if they are accurately measuring the concept. In qualitative research concepts are operationalised by descriptions, which call for words such as credibility for validity.

While validity is focused on study findings, reliability is focused on instruments and data collection methods. Rudestom and Newton (2007) regard reliability as the ability of a measure to produce consistent results. Walliman (2005) considers reliability in relation to human perception and intellect, as the power of memory and reasoning to organize data and ideas in order to promote understanding.

Although understanding is the aim of many qualitative studies, challenges arise when reliability gets concerned about the replicability of research findings. It violates constructivist schools of thoughts which argue that there is no single reality; hence replication to get the same result is impossible (Ritchie and Lewis, 2006). Qualitative researchers, like Denscombe (2010), are comfortable to talk of study dependability. The main issue is not on what words to use but answers to the question: '*Can findings from this study be considered as true?*' The question is what is true knowledge? Nyawaranda (2003) stresses that qualitative researches are concerned with the truth value of a researcher's account.

Rudestam and Newton (2007) consider research findings to be true, credible, transferable and trustworthy if it satisfies any of the four indicators, namely:

1. Correspondence – what is found in the study is true if it correspondents to what is seen in the 'real' world.
2. Coherence – what is said about a phenomenon must be true if the claims are plausible and internally consistent.
3. Consensus – findings are true if there is consensus (agreement) between people (participants) on what it does.
4. Pragmatism – findings are true if they work or are applicable in real life.

Several strategies have been applied to enhance this study's validity and reliability. They are presented under qualitative terminologies, credibility, dependability, transferability, conformability and trustworthiness.

Study Credibility

Lincoln and Guba (1985) argue that qualitative researchers cannot demonstrate that their data are accurate and appropriate. They can make efforts to make the data credible. In this study credibility is enhanced by:

1.   Applying four dimensions of triangulation as described below.

    a)   Design triangulation. The study makes use of both qualitative and quantitative research designs. The main study is a qualitative ethno methodology study. Its intervention is a group mentoring quasi-experimental design in which the application of group mentoring model is implemented. Also, a hypothesis test is derived from the quantitative field.

    b)   Data collection method triangulation. In this study surveys, interventions (quasi-experiments) and document analysis were used to collect data. They were used so that the strengths of one method would care for the weaknesses of another.

    c)   Population triangulation. Study intervention reports are made up of inputs from participants, their peers and external paper editors. This is both a quality assurance and project success indicator.

    d)   Theory triangulation. In this study, theories of adult learning, communities of practice and participatory action research are applied to describe and explain how lecturers can develop research competency.

2.   I spent three years (2012-2014) gathering data in the field. This is a long enough period to allow events to unfold naturally and facilitate the identification of the influence of new university policies on lecturer research output to be determined.

3.   The study model includes member or participant checking, peer debriefing in a social learning context and external audit trails. In fact, the publications in peer review journals provide checks on factual accuracy and allowed my understanding to be confirmed as valid in the academic world.

Study Dependability

Reliability refers to the neutrality or consistency of the research instrument (Denscombe, 2010). In qualitative research, the researcher is the main instrument (Chisaka and Vakalisa, 2009; White, 2005 and Silverman 2006). It would be absurd then to talk of consistency when no human being is the same at any two given moments (Walliman, 2005).

This study improved its dependability by describing the methods used in each study. Instruments used were also provided so that readers can verify conclusions derived. An explicit account of the methods, tasks, data analysis and decision making processes for the group mentoring research model also improves this study's dependability.

Research group mentoring model also includes peer checks in which contradictions in findings (interview transcriptions were referred back to participants for explanations). Reviewed papers are given back to author for corrections and justifications. The group mentoring model places emphasis on group consensus reached through open discussion between participants.

Study transferability

Generalization of findings is not an issue for qualitative researchers (Ritchie and Lewis 2006; Creswell, 1998 and Seale, 2005). Qualitative researchers aim to depict the specific and possibly unique situation (Denscombe, 2010). For Lincoln and Guba (1985) the question is '*To what extent could the findings be transferred to other instances?*' rather than '*To what extent are the findings likely to exist in other instances?*'

Three major strategies were included to improve the transferability or application of the study group mentoring model to other students in other institutions of higher learning.

1.	Although purposive sampling was used, it included deviant cases. Three lecturers had attempted to publish but their papers were rejected. The rejected papers were rich cases for discussion on the task, '*Why papers are rejected?*'

2.	Combining group-mentoring and one-to-one mentoring activities facilitated the application of a constant comparative method to validate application of model. In this case, the same research mentor and same group mentoring model applied qualitative, quantitative and mixed research methods for surveys. This was done to facilitate the transfer of writing styles. Three of the dummies were publishable while the other two had several weaknesses and could be rejected. Those with errors, specifically dummy 3, were rich sources for critique by participants.

Study conformability

According to Descombe (2010), study conformability raises two questions about the researcher's experiences. First, it questions the influences of the researcher in the interpretation of the data. Second, is the researcher's ability to keep an open mind and willingness to consider alternative and competing explanations of the data. This study tried to strive for a representative investigation by working with participants who are able to apply research skills for teaching research methods, supervision of students' research projects and publishing their own research.

Data for this study was gathered to a theoretical and practical saturation point. Participants' experiences are recorded from their conception of a publishable paper up to the point when the participant has written and submitted his/her own paper for journal peer reviewing. More important is the fact that participants' results in the form of editor comments are also captured. In this study I reduced the influence of the 'self' by:

1. Requiring participants to write personal reports which are transcribed verbatim to enable readers to detect any emotional overtones and deduce their own meanings.

2. The application of peer reviews, discussions and oral presentations which promotes reflexivity and introspection by both researcher and participant which modifies researcher's perceptions and reduces his bias.

3. Triangulation of method source and instruments reduces the influence of the researcher in data analysis and reporting.

4. Use of both open-ended and close-ended research questions in both questionnaires and interviews captured alternative and competing explanations of study findings.

4.7 CONCLUSION

Data collection for this study required a naturalistic, holistic and inductive approach from qualitative methodologies. Researcher participant techniques were derived from anthropology. Ethnography facilitated researcher analysis of the research culture of lecturers in their respective organizations. Since the study is focused on the development of lecturer research skills, the research design focused on ethno-methodology.

The purpose of this study is to solve a particular problem (low lecturer research output). It is a case of one problem, identified in one university. The nature of the problem, affected population and case study methods guided by communities of practice, called for purposive sampling of participants. My own rich experience in the teaching of research methods, supervision of research projects up to masters' level and research publications motivated me to design and apply a group-mentoring intervention for the problem. Data collection was done through document analysis, surveys, model implementation and programme evaluation interviews. Ethical issues were observed by working with volunteer participants. The next chapter presents participants' experiences and products in the form of publishable papers and the model.

CHAPTER FIVE
DATA PRESENTATION, ANALYSIS AND DISCUSSION

5.1   INTRODUCTION

This chapter presents findings from studies carried out during the past three years (2012 to 2014). The studies investigated the problem of low lecturer research output at Mentors University in Zimbabwe. Bluma (2007) suggests the application of an apprenticeship model to develop novice lecturer research skills. This assumes that there are senior researchers who can mentor novice lectures. In Zimbabwe there are very few experienced researchers to mentor novice university lecturers (Nherera, 2000). Alternatively, Lee (2009) considers research supervision as both an apprenticing and mentoring process. Student research project supervision is common in Zimbabwe although not documented as a mentoring process.

Consideration of the nature of the study problem (low lecturer research output) and limited number of research mentors in new universities called for the use of group mentoring as proposed by Zachary (2011). University research policies are silent on research skills development and have no provisions for lecturer research development initiatives. Such a situation required informal mentoring (Chao, 2005). Theoretical underpinnings from adult learning compelled the study to adopt and adapt the communities of practice theory proposed by Wenger (1998) and Wagner and Berger (1985). Important factors considered include the fact that lecturers (the affected population), are adults who can learn better in small groups by sharing ideas in an informal setting appropriate to them. My role as researcher was to facilitate learning by providing guidelines.

Data presentation for this study, which is guided by communities of practice theory, covers the first three of the six stages of the lifecycle phases of communities suggested by Kaplan and Suter (2005). The activities in the three primary phases are inquiry (through surveys), design (from literature) and prototype (intervention implementation). The inquiry stage of this study is dominated by baseline surveys whose findings are presented as quantitative and qualitative

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results to understand the problem and its environment. Speculative philosophy by Kneller (1977) allowed me to regard lecturer low research output as a result of several factors within the lecturer, publication system or university environment, hence the collection of data through document analysis, surveys, model implementation and model evaluation interviews as reflected in Section 4.4.3.4. (Summary of Nested Data Collection Process). The design's main activities were documentary analysis for the basis of model building (Chapter 2 and 3) and the university research policy. The prototype is the trial stage of the mentoring model within the context of Mentors University.

Findings presented in this chapter are cross referenced to literature for knowledge harmonization. They are presented under the data collection methods used, namely: document analysis, surveys (quantitative and qualitative results), intervention (model implementation) and model evaluation interviews to evaluate the mentoring programme. Answers to research questions are presented under this chapter as the conclusion. Guidance from Zachary (2000) supported by Irvine, Moerman and Rudkin (2008) suggest the use of each mentee's published papers (Appendix Four) and the mentoring model presented and discussed in this chapter as success indicators for a research mentoring programme. As a result, this study's findings will also consider mentees' papers and mentoring model as success indicators. Abstracts of mentees' papers are presented under Appendix Four as M1, M2 to M5 since all mentees' pseudonyms start with the letter M. Presentation of findings start with document analysis in the next section.

5.2 DOCUMENT ANALYSIS RESULTS

Document analysis was the **first phase** of data collection. It refers to the extraction of information from documents for the reconstruction of the previous picture. In this study, document analysis served the exploratory function. It was carried out to understand Mentors University research policy and its implications for lecturer research output. Literature in chapters two and three helped in the formulation of the possible models for the development of lecturer research competencies. Document analysis was also carried out to analyse dummy papers' strengths and weaknesses as part of mentee peer review development exercise. The next section

on research policy analysis was carried out to answer the second research sub-problem: *What is the research policy in Zimbabwe's higher education institutions and structures that exist to support lecturer research?*

5.2.1   University Research Policy

The research policy influencing research output at Mentors University was analysed in four phases. First, the role of the Research Council of Zimbabwe was analysed; second, the role of Mentors Research Board policy was analysed; third, the research capacity building policy was analysed and lastly, the research and resources mobilization policy was analysed. Each of these was analysed specifically for its role in the promotion of lecturer research skills development and research output. The next paragraphs present the policy and its critique in terms of lecturer research output.

5.2.1.1 The Research Council of Zimbabwe

The Research Council of Zimbabwe (RCZ) is a statutory body established in terms of the Research Act of 1986. It is mandated to promote, direct, supervise and co-ordinate research at national level. Its research policy is expressed in four declarative objectives:

(a)   Determining National research priority areas;
(b)   Sourcing and distributing of funds for the promotion of research in the national research priority areas;
(c)   Promoting research and publicising Zimbabwean research at a global scale;
(d)   Forming a research database that informs on research developments by Zimbabwean researchers in Zimbabwe and abroad.

This research policy is implemented by identifying the national research agenda/themes and communicating them to higher institutions of learning through calls for proposal submission. Research Council of Zimbabwe (RCZ) is known for organizing research expositions at national

level. It does not have a significant influence on university research operations besides calling for proposal submissions. Its mandate is not to organise workshops for lecturer research skills development. I found that the Research Council of Zimbabwe (RCZ) research policy benefits those who already have the research competencies. The latter are funded for research areas/problems, research funds and outlets for their research through the Research Council of Zimbabwe forums and publications.

Out of the sixteen universities (2014) in Zimbabwe, only four are registered as participating in research co-operations with the Research Council of Zimbabwe. These are University of Zimbabwe, Harare Institute of Technology, Africa University and National University of Science and Technology. This is in line with Nziramasanga's (1999) Commission Report which recommended that the Research Council should work with universities on research issues. Mentors University. the case site for this study, is yet to cooperate at national level. Mentors University research policies are governed at university level. The policy has been shifted from the university research board to research capacity building and now research and resources mobilization. Each is examined in the next paragraphs.

5.2.1.2 Mentors University Research Board Policy (2002 to 2008)

Mentors University Research board, research policy was expressed in the four intents considered as its terms of reference:

1. Administration of research grants in the university;
2. Support research projects for academic staff members, students and research fellows;
3. Fund travel expenses for staff members' participation in national and international conferences;
4. Screening research proposals submitted by staff for funding.

Mentors University Research Board's terms of reference did not show anything on the development of lecturer research skills. They are silent on funding research skills development

workshops. They were adopted from the University of Zimbabwe, the mother university where most of the lecturers are tenured. It can be safe to infer that the terms of reference were not appropriate for a developing university.

Minutes of the 16th February 2008 Research Board meeting reflected that the majority of lecturers did not submit research proposals for funding. The only two proposals which the Research Board received in 2005 to 2007 were poorly done. Specifically the statement of the research problem was not discernible. Probability sampling methods were also poorly presented. It can be noted that the Research Board supported more workshops and seminars during its time of office. I concluded that lecturers did not submit fundable research proposals because they lacked appropriate skills. Figure 5.1 shows the distribution of lecturers and activities supported by the research board from 2002 to 2008 inclusive.

Lecturers' Research Activities Supported at Mentors University
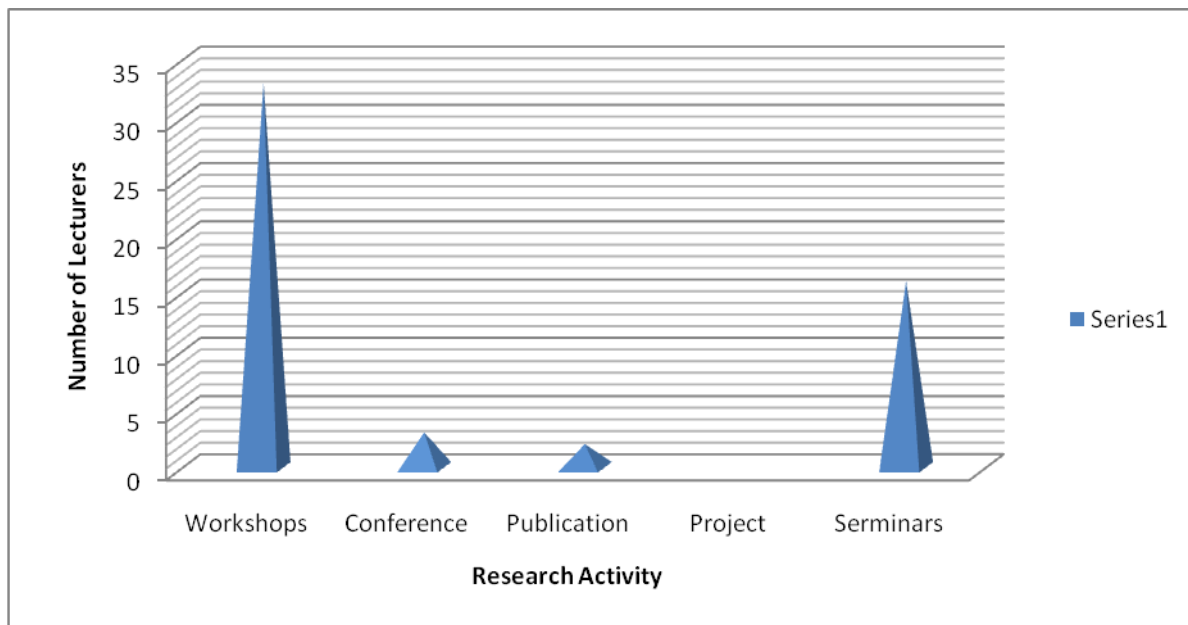
Figure 5.2: Lecturers' Supported Research Activities

The graph shows that the majority of lecturers were supported for research workshops. This was followed by research seminars. Very few participated in conferences, publications and no

community research project was supported. Although each staff member on paper had a research grant allocated to him/her each year, the majority of lecturers did not benefit from the grants. The discrepancy can be explained as the differences between the documented and implemented research policy.

These findings can be interpreted to mean that the Research Board policy did not address the actual needs of lecturers. Lecturers needed research skills first as shown by their participation in seminars and workshops rather than conferences. I inferred that implemented research board policies were not addressing the needs of the lectures. Mentors University Research board was restructured in 2009 by appointing a research director who focused on research capacity building. The next section examines the research capacity building blueprint.

5.2.1.3 Research Capacity Building Policy (2009 to 2011)

The Research Director, Jingura (2010:1), expressed the aim of the Research Capacity Building Policy as, "…the strengthening of research capacity and increasing research outputs of relevance to the country's strategic economic sectors."

What should be noted is that by focussing on capacity building, Mentors University admitted that its lecturers lacked the skills to research and publish. Capacity building was intended to be a university sponsored formal program. If research output was relevant to the country's strategic economic sectors, then one can infer that the policy was guided by the Research Council of Zimbabwe's national research priority areas. Its four major expected outputs are appraised in the next paragraphs.

First output was a research plan developed for Mentors University. This was a success. The document is available although it was not implemented. The second output was the implementation of the lecturer research capacity development programme and establishment of research networks for Mentors University. This was expected to be achieved through the establishment of research units in each department. The director for research capacity building

was responsible for the development of networks between Mentors University and the outside world (industry, other research organisations, conferences and research publishers). A department research coordinator was to be appointed to coordinate the department's research activities. These activities included lecturers' research needs identification and organising training workshops to address needs. The department research coordinator was also responsible for identifying resource persons within or outside the university.

A critical eye can foresee the possibility of a big bill for research activities in the university. The director needed also to reduce the number of workshops by combining members with the same needs from different departments into one. For example, only one workshop on qualitative research methods would be held for all lecturers at Mentors University.

The third expected output was the training of academics in writing scholarly articles for possible publication in accredited journals as well as fostering community engagement. This outcome was likely to arise from the research workshops and lecturer presentations of their research findings. Indicators also include publication of articles in accredited journals. To facilitate improvement in the number of publications for academics, the university introduced a journal in 2010. Its editorial committee was composed of volunteers who had some publications. At the end of 2011, the journal was still in the registration phase before acquiring an ISSN number.

The fourth output was for academics to acquire community engagement skills and competences. Lecturers were expected to conduct research in various communities to assist in resolving community problems. The director working with department research coordinators was expected to identify research areas so that different departments could work together with the communities. This called for collaborative skills from the university and community. Lecturers specifically were expected to develop marketing skills so that they could secure community co-ownership of research projects that they intended to participate in. Areas earmarked for such projects included wild life management and conservation, fisheries and agriculture. Programme evaluation surveys were also expected to be carried out for the improvement of the quality of university degree programs.

I noted that the Research Capacity Building policy blueprint addressed lecturers' needs and seemed poised to promote lecturers' research output. The unfortunate part was that the Research Director's term of office (2009 to 2011) was short lived. He was redeployed to the quality assurance department. His policy did not go beyond marketing for beneficiaries' buy-in and beneficiaries' co-ownership endorsement. Since it was not implemented, the research capacity building policy did not influence lecturers' research output beyond idealism at Mentors University. The next section examines the research and resources mobilization policy's roles in lecturer research skills development.

5.2.1.4 Research and Resources Mobilization Policy (2011 to 2014)

The vision of Mentors University 2013 is "to be a world class centre of excellence for technological innovation and entrepreneurship." Its mission is "to produce innovative graduates, create knowledge, enhance entrepreneurship and provide community service through quality teaching, training and technologically oriented research." This vision and mission stress the need for experts in applied research although it is silent on the development of lecturer research skills. The Research and Resources Mobilization Policy (2011 to date) had two changes in the research fraternity. First, it included the need for lecturers to publish in journals with high impact factor. Human Resources (HR-25 FORM) section 3: CRITERIA FOR TENURE :EXTRACT FROM ORDINANCE 3 OF 2010 - SECTION 7.5 point 3.1 (b) which reads "Satisfactory Research shall mean a minimum score of twenty (20) points from five relevant refereed publications with a minimum aggregate **impact factor of 0.5."**

The second change was the university's drive for massive recruitment of senior academics (those with PhDs) rather than developing researching skills for those already in posts. This move implied that the university research policy abandoned the development of lecturer research skills for academics with doctoral degree qualifications. They are assumed to have the desired research skills. As such, senior academics are expected to drive the university research agenda as the university moves from a teaching to a research institution.

In theory Mugabe's strategy of expecting academics with PhDs to mentor novice research lecturers is supported by Irvine, Moerman and Rudkin (2008) who propose that professors should be appointed as research mentors on the basis that the professorial role legitimates a claim to seniority in the discipline. Caution is required here, for example, being a professor in animal husbandry does not necessarily imply that the professor can be a research mentor. Further, being in possession of a doctoral degree does not symbolise any seniority in research and ability to mentor others for research skills development. In support of this, Barondess (1995) registers that possession of a doctorate can be an indication that one can develop into an experienced researcher with good guidance. Through years of experience in research and publications one can qualify as a senior researcher in the rank of a professor and as such, capable to mentor others.

That "the senior academics in the various departments *should* mentor junior academics" (Mugabe 2013:10), sounds wishful thinking. The word 'should' though carrying a mandatory connotation has no force to monitor its implementation. The employment contract for academics with PhDs does not include mentoring of junior lecturers as a core responsibility. Thus, I concluded that the research and resources mobilization policy makes no provisions for developing lecturer research skills at Mentors University.

Although Mentors University calls for its lecturers to enrol for PhDs, the university does not provide them with financial support or release time for studying. The lack of funding for academics to improve their qualification indicates that Mentors University is not keen on developing its human resource.

The Directorate of Research and Resource Mobilization (Mugabe) is responsible for the administration, management and co-ordination of research and resource mobilization in the University. The goal of the Research wing of the Research and Resource Mobilization Directorate is to organize, implement and promote the University's research and knowledge exchange strategies. The terms of reference are silent on the development of lecturer research skills, and as such the research policy is unable to develop lecturer research skills. The terms of

reference are focusing more on material resources management at the expense of human resources development.

While the expression in Mentors University (2013) mission statement, 'innovative graduates, knowledge creation and entrepreneurship' are impressive, Jingura (2010:1) and Mugabe (2013:9) indicate low lecturer research output at Mentors University. I wondered why this mission focused its 'innovation' output on students rather than lecturers. A university lecturer is expected to be a knowledge creator rather than simply a knowledge consumer. The order of quality indicators namely, teaching, training and technologically oriented research does not give research a high priority. Innovative research facilitates the high ranking of a university. An objective evaluation of the research and resources mobilisation policy requires an understanding of its rationale as discussed in the next paragraph.

Ranking of universities the world over is based on research, teaching, and community engagement. For a university to become a world class centre, it should do extremely well in those three areas especially research. According to Bruce and Andras (2004), the highest number of points in the ranking is from research and publications (60%). This means that for Mentors University to improve its ranking, it should identify its research themes in line with its mandate and be engaged in high impact research that addresses various community problems which Zimbabwe faces. In addition, Mentors University needs to alter its priority order from teaching, training and research to research, teaching and training.

There are a number of reasons why Mentors University has not done as much as it should have done in terms of research. Mugabe (2013: 9) highlights three major factors. The first factor is that academic pillars to support research in the University have been lacking. Recruited doctors were not tasked to mentor junior lecturers for research. Their job descriptions are silent about mentoring others for research. The second factor is that there is inadequate laboratory equipment in the university and a lack of knowledge of what to purchase because of a lack of knowledge of the appropriate equipment in the various departments. There are no funds for the purchase of the equipment. The third but equally important factor, which Mugabe (2013) points out, contrary to

the second is that the funds that are allocated for research are limited given that almost all the research taking place at Mentors University is funded by the university. Most research in the top ranked universities is funded by international donors, industry and well-wishers, which is lacking at Mentors University. Furthermore, the institution suffers from very high competition in applying for international funds from donors due to the shortage of distinguished senior academics. One of the major requirements of donor funders is expertise in conducting research, the number of publications in high impact journals as well as enrolment of postdoctoral students under applicants' supervision.

Although the three factors are dependent on the human factor, there are no initiatives to develop lecturer research skills to date. Literature in chapters three and four argued the need for informal mentoring when the organisation is not supportive of the development of its human resources. The next paragraph considers the conception of a model for research skills development.

5.2.1.5 Model Conception

The literature review in chapters two, three and four was carried out to find answers to the third sub-problem: *What model can be deduced from the existing competence development models for the development of lecturer research skills?*

Model conception is a cognitive process of visualising the process of developing lecturer research skills. This study's problem of low lecturer research output in the form of published articles in accredited journals calls for models of skills development appropriate for lecturers as adult learners in a university. Verma and Mallick (1999: 6) consider models as tools used for illustrating activities and relationships between variables in a process. Klasen (2002) and Dessley and Varkkey (2009) suggest apprenticeship because of its application of formal instruction and on-the-job training under the guidance of an expert. Lepatho and Jackson (2010) classify students' independent research under a supervisor as apprenticeship. These authors point at apprenticeship models for the development of lecturer research competency. In this study,

apprenticeship was affected by lack of senior researchers to whom novice lecturers can be attached (Nherera, 2000).

Kram (1985) suggests mentorship as a relationship in which a more experienced person helps guide the career of a less experienced member navigating the world of work. The purpose of the mentoring career function is to develop the mentee's technical knowhow. The study inferred that a mentoring model should have mentor and mentees' activities and relationships at each stage of the mentoring process. According to Punch (2006:17), a research model should have the pre-empirical (literature and document analysis) and empirical stages. This suggested a research design composed of document analysis and fieldwork (empirical investigations).

Salih (2003) proposes that the affected population (adults) should not be taught like children but assisted to learn. Knowles (1984) advises facilitators for adult learners to utilise learners' experiences by involving them in decisions pertaining to their learning processes. Wenger's (1989) communities of practice require adult learning to be a social activity. In Australia, Irvine, Moerman and Rudkin (2008) solved the problem of low lecturer research skills in accountancy by group mentoring. Chao (2005) argues that outside mentors may not be as effective as inside mentors.

These discussions converged on the conception of informal group mentoring as the possible solution to the problem of lecturers' low research output at Mentors University. Document analysis found that: (a) mentoring can be used to solve the problem of lecturers' low research output; (b) group mentoring can be used to solve the problem of low lecturer publications; (c) the success of a research mentoring program can be measured by published papers from participants and the mentoring model; and (d) a group of five mentees was ideal. From these considerations, I structured the informal group mentoring model presented in the next paragraph.

Informal Group Mentoring Model

The informal group mentoring research skills development model is in the form of a process diagram. It has two columns, four mentor meetings and three mentee activities which are linked by vertical arrows showing serial movements from one stage to the other. Oblique arrows at the centre show links between mentor meeting group activity and individual mentee activity. These promote learning social activities required by Wenger (1998). For example, mentor meeting (a) leads to mentor meeting (b) for presentation reports. Presentation reports promote interactive group learning which is ideal for adults (Rogers, 1986). There are four mentor–mentees' meetings composing the group mentoring programme involving one mentor and five mentees. Mentoring activities at each group mentoring meeting are described under the programme's implementation. Each group mentor-mentee meeting is followed by mentee-to-mentee or individual activities as shown by arrows in Figure 5.3 below.

Figure 5.3: Group Mentoring Research Skills Development Model

Group-Mentoring Research Skills Development Model

Mentoring Meetings

Mentee Activity

(a)
Familiarisation with program
Assignment One

Desk Research
(Library,Internet,Journals,
Discussions)

(b)
Presentasion reports
Editor presentation
Assignment Two

Review 5 research papers
(implementation of theory
in practice document analysis)

(c)
Review Reports
on 5papers
Assignment Three

(d)
Challenges
and
progress

Research and Report
(field,library,internet)

(e)
Mentor/Editor
distribution of scripts
for peer group review

Peer Blind Review of scripts

(f)
Edit Corrections
group

Mentor ← Journal feed back ←

Final
Edit and submission to journals

A B C D E

5.3   BASELINE SURVEY RESULTS

Data collection (fieldwork) was initiated by baseline surveys which formed the **second phase** of data collection methods. Their findings are presented in this section as quantitative and qualitative data. This presentation format corresponds to the two samples and two data collection methods employed. This section (5.3) presents quantitative and qualitative findings from a purposive sample of 59 lecturers and 201 teaching assistants who returned completed questionnaires out of the 320 lectures who had received questionnaires. This was an 81% response rate. The sample size (n = 260) is large enough for the variables sought to be normally distributed.

Table 5.2: Research aspects addressed by the questionnaire

Cluster Questions	Aspect brought out	Research question addressed
1, 2 and 3	-Gender and Age distribution -Participants' experience in research	1
4 and 12	-Current lecturer research output	1
5, 6, 7a and 7b	-Factors promoting lecturers' research output -Factors affecting lecturers' research output	1
7, 7a, 7b, 8, 9 and 10	- University research policy -How policy influence lecturers' research output -Research policy suggestions	1, 2 and 6
11	- Existing research policy structures	1 and 2
13	Strategies for developing lecturers' research competencies	6

5.3.1 Quantitative Findings

Participants' demographic data in the form of gender, length of service, publication record and research output trends provide a basis for evaluating contextual factors. In this study, respondents' biographical distribution is presented in Table 5.3 below.

Table 5.3: Participants' distribution by gender and age. N = 260

Participants' Age group in years						
Gender	20 -30	31- 40	41 - 45	46 – 50	51 - 65	Totals
Male	24	20	31	63	51	189(73%)
Female	7	16	24	13	11	71(27%)
Total	31	36	55	76	62	260(100%)

The data reveals that participants were composed of more males (73%) than females (27%). The findings support those by Majoni and Chidakwa (2003) who report fewer women than men participate in higher education in Zimbabwe. This may be a reflection of the natural distribution of lecturers by gender in new universities.

For this sample of lecturers, the mean age = 45 years < Median age = 46 years < Modal age = 49 years. This implies that participants' ages are negatively skewed. The majority of lecturers are old and approaching the retirement age of 60 years. Nearing retirement age may discourage lecturers from participating in research activities. Advanced age also lowers their motivation for research, need for tenure and study for a doctoral degree.

Respondent R explained it in these words, *"I am now 56 years old. What do I need to research for? If I get tenured now, I only have four years to work. I cannot expect to go on sabbatical leave before retiring. If I start doctorate studies now, I will graduate at 60 years and retire. Is that worth the resources that I would have committed? Is it a worthwhile investment?"*

These participants were considered rich sources for research needs identification. The sample was large enough for the factor variables to be normally distributed and findings generalized to new universities in Zimbabwe.

The variable, research publications, is an important indicator of academic research ability. It is considered here to show the publication record at the inception of the study. Respondents were distributed by length of service at Mentors University and number of research publications as shown in Table 5.4.

Table 5.4: Survey Respondents Biography: Length of Service and Publications N = 260

Length of service in years	0 – 3	4 – 6	7 – 9	10 - 15
Number of respondents per group	113 (43.4%)	58 (22.3%)	15 (5.8%)	74 (28.5%)
Number of publications per group	23	75	8	30
Mean of publications	0.2	1.3	0.5	0.4

Table 5.4 shows that the majority (43.4%) of respondents had less than four years in service. This group of lecturers struggle to publish in order to obtain tenure. The average number of publications is less than two for all groups. This finding supports Jingura (2010) who noted that less than three papers are published per year in most of Zimbabwe's new established institutions. The findings confirm the low levels of research publication at Mentors University.

The scatter plot: lecturers' research output trends at Mentors University from 2002 to 2013.
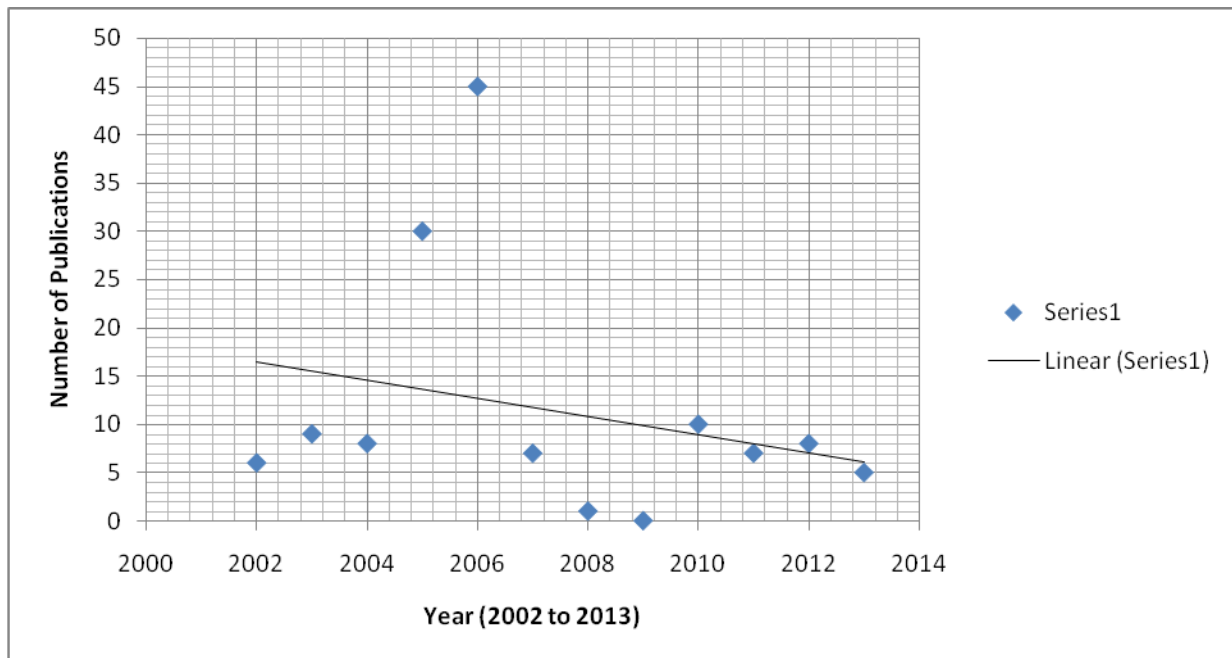
Figure 5.3: Scatter plot showing correlation of publications from 2002 to 2013

The scatter plot (fig 5.3) shows a sharp increase in the number of publications from 2004 to 2006, followed by a drop to 2010. The increase can be a result of recruited lecturers attempting to satisfy university requirements for a publication. One can ascribe the drop in publication rates to the inflation that Zimbabwe experienced between the years 2007 and 2009. Qualified lecturers who had the skills to research and publish left Mentors University. Those lecturers who remained had limited funds to sustain themselves and could not publish. Although the multicurrency period improved the economy during the end of 2009, lecturer research output at Mentors University remained low. What may be surprising is that although the university has recruited lecturers holding PhDs since 2011, the research output trend shows a decrease from 2010 to 2013. Mentors University is ranked position 8 out of 12 universities in Zimbabwe (University Web Ranking, 2014). This may imply that PhD holders have not yet had an impact on lecturers' research output in the university. The line of best-fit shows a negative correlation between year and number of publications. Factors associated with the low lecturers' research output at Mentors University are presented in Table 5.5 and Table 5.6 in the next paragraphs.

5.3.2 Qualitative Findings

Factors promoting and affecting lecturers' research output at Mentors University answer the first sub-problem from chapter one which reads: *What factors influence lecturers' research output at Mentors Universities in Zimbabwe?*

Table 5.5: Factors promoting lecturer research output   **N = 260**

Factor	Frequency	Percentage
Requirement for tenure and promotion	213	42%
Encouragement from Research Board	96	19%
Availability of internet facility	52	10%
Availability of library	77	15%
Access to computers	38	7%
Establishment of local journal	21	4%
Funding	13	3%

Table 5.5 shows that the major motivator for lecturers' research output in the form of published articles, book chapters and presentation in conferences is the need for tenure and promotion. What can be observed is that all of the above factors are external motivators. Establishment of a local journal (Zimbabwe Journal of Technological Sciences) was mentioned as a low motivator (4%). This finding does not tally with Zindi and Munetsi (2008) who propose that limited journal outlets affected lecturers' research output. Table 5.5 indicates that very few participants regarded access to the computer and internet as a priority. This finding supports previous findings by Kumar (2008) who reported that Indian universities increased the number of research articles published between 2003 and 2004 as a result of the availability of the internet which facilitated academics' access to internatio*nal journals. Against these factors promoting lecturers' research output are counter-productive factors presented in Table 5.6 in the next paragraph.

Table 5.6: Factors affecting lecturer research output N = 260

Factor	Frequency	Percentage
Limited skills for either statistical analysis (quantitative) or qualitative research design	110	8%
Large classes compelling lecturers to spent most of their time marking at the expense of research	221	16%
Poverty compelling lecturers to teach more than two courses for extra payment	103	7%
Lack of mentors to guide them	254	18%
Limited computer skills	144	10%
Lack of personal interest in research	156	11%
Reviewers' destructive commends on lecturers' first attempts	84	6%
Lack of workshops by editors and reviewers to assist novices	200	14%
Compelled line of research (technology) which is not within other lecturers' interests and understanding	72	5%
Limited local journals in which to publish	68	5%

Findings in Table 5.6 reveal the lack of mentors as the main factor (18%) affecting lecturer research output. This finding confirms that lecturers lack research skills. This finding supports claims by Nherera (2000) and Ntiamoah-Baidu (2008) that lecturers require mentors to develop their research skills. The other area of need was the development of computer skills (10%). This finding concurs with Onasanya et al (2010), who observed that, although ICT is also available in Nigeria, many academics lacked training in the use of computers as a tool for effective teaching and research purposes.

One group of respondents have served more than nine years. The majority are former employees of Mentors Teachers' College. Teachers' colleges emphasise teaching and not research, hence these participants lacked a research culture and skills. In addition, they did not see the need to publish since the university had not dismissed any of them for no publications.

Respondent P presented this argument, *"The main purpose of a university is to teach, teach and teach! We have taught successfully and graduation ceremonies were held. Why bother us with publications?"* I noted that this group of lecturers regard research as an unwarranted bother. These findings are supported by Promfret and Wang (2003) who reported that economists in Australian universities did not publish because it was not considered part of their job descriptions. They suffered no penalty for failing to research and publish.

Participant X reported lack of research skills as a result of a default research supervision model. This was revealed by this comment, *"There are weaknesses in our research project supervision system. We were never taught to research for publication. Our research project supervisors were only concerned with us passing. Period!"* This comment concurs with Leong (2006) who revealed that research project supervisors did not mentor students to publish papers.

According to **Mark, "***The supervisor and student have no vision of a publication from their study. That limits our level of quality standards to local level. That limits students' exposure."*

While Riley (1998) found agricultural scientists had problems with biometry and statistics, in this study lectures expressed challenges with social concepts, such as the statement of the research problem, research designs and probability sampling methods.

Respondent T explained his/her need in these words, *"While we are willing to publish, we have problems with the statement of the research problem, research designs and probability sampling methods. We hope the university can help us out here."*

None of the participants identified funding as a factor. This contradicts findings by Zindi and Munetsi (2008) who claimed that lack of funding is amongst other factors militating lecturer research output in universities in Africa. One can explain the variance by observing that lecturers in this university are concerned with small scale research for publication and tenure rather than large scale research which requires one to have extra funds to cover research costs. In addition,

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the majority had not yet published as a result they were unaware of paying publication fees for their published articles.

Research sub-problem 2 in chapter one requires perceptions of the university research policy. The questionnaire cluster questions 7, 7a, 7b, 9, 10 and 11 captured lecturers' perceptions of Mentors University research policy presented in the Table 5.7 below.

Table 5.7: Lecturers' perception of the research policy at Mentors University.   N = 260

Lecturers' perceptions of the Research Policy	Frequency	Percentage
1.Research and Resources Mobilisation Committee controls all research activities	190	12%
2.Only proposals from PhD holders receive funding	217	13%
3.Lecturers must publish in journals with high impact factors	260	16%
4.Only research publications with impact factor of at least **0.5** will be considered for lecturer' tenure and promotion	260	16%
5.There are no funds for PhD studies research activities	87	5%
6.Lecturers must submit their publications to the Research directorate for database creation	65	4%
7.No lecturer without a doctorate will be tenured or promoted	213	13%
8.Only PhD holders can make presentations on research issues	148	9%
9.University does not pay journal publication fees for lecturers' research to be published	200	12%

Table 5.7 revealed that lecturers perceive the written and practical applications in respect to research as contained in the research policy. Themes which emerged from their responses are presented in the next paragraphs.

5.3.2.1 Emerging Themes

5.3.2.1.1 Journal Impact factor

All participants agreed that, the implementation of the need for a journal impact factor was the research policy. Lectures were against the introduction of the journal impact factor for the assessment of the quality of published research papers that they submit for tenure and promotion. The following sentiments were captured to reflect their resentments.

Respondent F complained, "T*he need for a journal impact factor compelled us to subscribe to online journals which have high impact factors. This move threatened local journals which are not yet online."* Most journals in Zimbabwe are not yet on-line, hence have no impact factor. If lecturers are to go for the journals with an impact factor, they have to subscribe to foreign journals.

Respondent K explained his/her personal opinion in these words, "*I personally do not see the logic of requiring journal impact factor. Do these guys want us to believe that they can't tell a good paper from a poor one? Then they should be comforted by the paper being published*." These words have emotional overtones which show that, the need for the journal impact factor affected lecturers emotionally as well. These *guys* and *us* reflects the creation of division between university lecturers and management responsible for the policy.

Respondent S justified his/her objections by saying, *"Journal impact factor is not a measure of quality of the research. I doubt if they understand it and I am sure those using journal impact factor on us were not promoted to those ranks using that instrument."* This objection ridicules the implementers of the journal impact factor. The use of *those* and *us* reflects two groups, the policy implementers and lecturers. Thus, the policy was divisive and did not motivate lecturer research.

Respondent P regarded it a gate keeping strategy to block lecturers' advancement. She/he used these words, *"It is a gate keeping instrument that they designed for us. It forces us to publish in foreign journals which are expensive hence creating costs for us."* Once again the use of *they* and *us* reflects factionalism among lecturers, which affects teamwork and development of lecturer research skills.

Respondent A considered the need for journal impact factor as a strategy to promote foreign journals not lecturers' research output. She/he expressed her/his opinion in these words, "*Journal impact factor deprives local journals of good research which affects their impact factor. That is a strategy to promote foreign journals."*

Respondent E focused her/his argument on the instrument itself by saying, *"It is an unreliable instrument for quality assessment. It was not created to measure quality in research, hence a wrong tool. In fact Zimbabwe's journals have not yet got an impact factor. That disqualifies most our quality research published in them."* While the criticism is directed at the instrument, one can also note the doubts raised about the judgment and knowledge of the policy implementers. I deduced that, the introduction of journal impact factor does not promote lecturers' research output at Mentors University.

5.3.2.1.2   Lecturer Discrimination

The second theme that emerged from lectures' responses is that there is discrimination and preferential treatment for lecturers with PhDs. Points 2, 7 and 8 suggest discrimination tendencies between lecturers with PhDs and those without; the *us* and *them* used by lecturers destroys the unity that can promote formal or informal mentoring for research skills development at Mentors University.

Respondent V observed the differential treatment in these words, "M*entoring of lecturers' for research output by holders of doctorate degrees could have been a good move. Unfortunately, the preferential treatment given to those with doctorate degrees such as: having a different*

dinning-hall for them with subsidized special meals, car and free housing separated them from those they were to help.'' A social gap was created between lecturers with doctorate degrees and those with masters' degrees. The creation of a social gap contradicts principles of mentorship suggested by Krishnaveni (2008). The researcher concluded that massive recruitment of academics with doctorates does not promote lecturer research output.

Modern criticised the newly established journal for the university in these words, "*Our Journal of Technology Sciences is too selective. It had specific technology related themes which we lecturers either had no interest in or were not familiar with.''* I inferred that lecturers either did not submit articles to the journal or had their articles rejected for being irrelevant in terms of journal content, lacking utility value or poor methods.

Matthew speculated that their papers were discriminated against because they did not have doctorate degrees. He expressed it in these words, "*Our editors wanted to publish papers from doctorate holders only. This closes channels and publication outlets for us who are budding*" This could be true, considering that editors can manipulate the purpose of the journal.

I attempted to solve the problem of low lecturer research output by implementing the informal group mentoring program presented in Figure 5.2. Findings are presented in the next paragraph.

5.4   MODEL PROGRAMME IMPLEMENTATION (INTERVENTION)

Model implementation is the **third phase** of data collection. I acted as mentor. A purposive sample of five lecturers participated during the implementation of the model. The main aim of the informal group mentoring programme was to test the model's effectiveness in a real life situation.

5.4.1   Mentoring Meeting (a)

The first mentoring meeting was held on the 4th of May 2013 in a classroom in the university. The mentor started by welcoming all members who were present. This was followed by each

mentee introducing him/herself. Mentees identified pseudonyms for themselves as shown in Table 5.7 below.

The mentee participants were a sample of five academics selected from the sample of 260 lectures by purposive sampling described in paragraph 4.5.3.1. Macilika (2012) requires interventions to identify participants' current circumstances with regards to research publications as a basis for measuring the effectiveness of the model. As a result this section presents mentees' initial profiles as a basis for measuring the programme's effectiveness. Table 5.7.presents mentees' gender, age, work experience, research project level and attempts to publish.

Table 5.8:.*University Mentees/Lecturer Profiles*   **N = 5**

Name	Gender	Age	Work Experience	Work Status	Area of Specialisation	Research Project level	Attempts to Publish
Mark	Male	54	15	Lecturer	Educ. Management	Masters	3
Maurice	Male	50	14	Lecturer	Curriculum	Masters	2
Mary	Female	33	6	Teaching assistant	Sociology	First degree	0
Matthew	Male	40	8	Teaching Assistant	Maths Education	Certificate	1
Modern	Male	35	7	Teaching Assistant	Environmental science	certificate	0

All five mentee participants would have been tenured if they had published. These participants have worked at Mentors University for more than three years. Although each of them has registered and passed research either at certificate, undergraduate and masters' level, all of them had no publications. Out of these five, three had written articles for possible publication in accredited journals without success. Their willingness to publish and their attempts in writing for publications made them rich sources for the study. Two of the participants were employees of the former Mentors Teachers College who had joined the university at its inception in 2002. They all

had their probation periods extended once or twice due to lack of publications. These circumstances motivated participants to commit themselves to this study.

The mentor introduced the main purpose of the group mentoring scheme as the development of research skills for publication. The emphasis was on the word 'development' portraying an individual internal change in skills. After introductions, members were asked to talk of their experiences in research and research publications. The mentor also talked about his experiences. These experiences revealed that two participants had conducted a research project at teacher education certificate level. One had done research at undergraduate level and two had a research project at masters' level. In addition three of them had attempted to publish research papers without success.

5.4.1.1 Mentees' Experiences

Mark related these experiences about research publication, *"I summarised and submitted my paper to a certain journal J. The first response was that, the paper needed corrections. I did that and resubmitted it. The second response pointed out that, the problem was not clear, sampling and data analysis needed to be improved. Unfortunately they did not identify the specific weakness and the possible nature of improvement. I did what I thought was required and resubmitted the paper. The third response was that the paper had been rejected because it had no utility value to the readers of the journal."*

From the informal discussions the researcher deduced that peer reviewers and journal editors need to help their authors by including evaluative comments which the author can use to improve the paper. If the paper is not publishable, then it should be pointed out at the onset, so that authors do not waste time and effort correcting papers which will be rejected at the end.

Maurice reported that he had conflicting experiences with the editor. He used pseudonyms and the editor asked him to mention his informants. When he refused to do so as an ethical issue, his paper was rejected.

Participants selected Mark as the group chairperson. He assumed office and led programme planning discussions. Participants agreed that the mentoring mode includes individual assignments, group presentations and reviews. Signposts or achievable targets suggested included individual desk research reports on the qualities of a publishable paper, review reports for the dummy papers and each mentee's published research paper. Participants agreed to hold future meetings in the same classroom at 9.00am on Saturdays.

The mentor introduced **Assignment One** intended to train mentees in desk research skills. The assignment develops what Boyer (1987) called the scholarship of discovery, integration and application. It promotes hands-on experiences for documentary analysis which correspond to Punch's (2006) non-empirical research stage. The mentor directed mentees' desk research activities by asking them the following questions whose answers require desk research.

Research questions:

1. *What are the qualities of a publishable paper?*
2. *What are the weaknesses of papers rejected by journal editors?*
3. *What are the implications of your findings for researchers who wish to publish?*

The task compelled mentees to identity sources of knowledge, gather it through reading, analysis and synthesis of information and present a report. The implications part of the assignment required introspection and applicability of their findings. It provoked mentees' evaluative skills. The group set the next meeting for 25th May 2013. The meeting's main agenda was presentations of desk research findings as reflected in the Group Mentoring Research Skills Development Model in Figure 5.2.

5.4.2 Mentoring Meeting (b)

The second mentoring meeting was held on 25th March 2013 in one of the classrooms at the university. The chair participant welcomed members and introduced the guest editor. Participants

reported that they had challenges with the location of resources. There are limited books on writing for publication in the university library. Sources on the internet did not spell out exactly the qualities of a publishable paper and had no illustrative examples.

Participants' desk research findings revealed that the purpose of a publishable paper should be to solve a real problem, affecting a real population in a given locality. The paper should be 15 to 20 pages, typed on one side with font size 12 Times New Romans and 1.5 line spacing. The literature section of the paper covers themes from all research questions. An additional section can include reports on studies carried out on the study area.

In quantitative research, the literature section is presented as a separate section while in qualitative research it can be embedded within the background description. They stressed that study findings must be derived from the study and should answer all research questions. Participants concurred that publishable papers show implications of the results and include further research recommendations.

A summary of reasons for rejection revealed that, papers are rejected by publishers if the statement of the research problem was *not discernible*. The editor explained, *"If the research problem is not clear, then the study or paper has no clear direction and will be rejected."*

Other paper weaknesses revealed during participants' presentations include unclear purpose of the study. Research questions were not stated concisely and not synchronised with the research objectives. Literature not contextualised is not relevant to the paper and adds no value to the acceptance of the paper. A research method lacking a complete description of what was done (action to collect data), by whom (study population), how (methods), why (action justification) and where (location).

The editor added that, *"The key indicator of a successful methods section is that, whoever is reading your paper should be in a position to replicate the methodology. Replication is the key!"*

Presentations done using power-point provided training for participants' structuring of slides and use of technology. Discussions and analysis of reports from editors and group members on reviewed papers helped to clarify the purpose, research questions, the relevance of literature, complete description and good research designs. Participants noted that they benefitted much from reading and discussing contents and writing styles of published papers. Participants structured the peer review schedule presented below.

The mentor presented the second assignment task question.

Question: *Using the guidelines of a publishable paper which we have structured, review each of the five papers assigned to you. Justify your recommendation for them to be published or not.*
The focus group discussion of editors' expectations and each of the mentees' report at mentoring meeting (b) satisfies three fundamental aspects of a participatory action research suggested by Rearick and Feldman (1999). They require action research to be:

1. A product that is personal. Each participant undergoes a personal learning experience about his or her own learning. This can be reflected by the quality of reports presented by each of the mentees.

2. A mode of reflection that is a collaborative and auto biographical. Reflection is both highly personal and shared as a group in a collaborative venture. Kram (1983) called it shared competencies.

3. Reflexivity which entails continuous exchange of ideas between the researcher, the researched and the research from the point the mentee starts working on the task.

4. Mentees' presentations facilitated role exchanges. Mentees assumed the role of peer reviewer and mentor. This an important part of training mentees to be mentors themselves.

The group report can form the first publication for each of the participants. This is both an intrinsic and extrinsic motivator for participants. The weaknesses of individuals are overshadowed by the strengths of other group members. This group publication is a critical

determinant for the success of the mentoring programme. The mentor can emphasize facilitation and support to the group.

The five dummy papers structured by the mentor were composed of two dummies: D3 and D4, with weaknesses warranting rejection and three good publishable papers: D1, D2 and D5. Such a composition compels mentees to identify errors which they themselves should avoid in their papers. Such errors like poor statement of the research problem, weak methodology, not collecting required data and literature not based on the problem being researched were included. The good papers enhance the mentees' appreciation of good writing styles. Abstracts of the five dummy papers are presented in the Appendix.

Each dummy paper reviewed is a case study. Case studies are appropriate methods for lecturer research skills development when the following benefits are considered:

1. Case studies help mentees or participants to develop analytical and problem solving skills when mentees are required to do the following:
    a) Summarizing the main points of the case;
    b) Drawing inferences from the facts. This is important for data interpretation;
    c) Identifying and stating the problem;
    d) Developing alternative immediate and long term solutions;
    e) Evaluating the possible consequence of each recommendation;
    f) Determining and supporting a presentation.

2. Some case studies require mentees to conduct research to gather appropriate information.
3. Participants can discuss different diagnosis, alternatives and solutions in groups;
4. Participants apply known concepts and principles to discover the new ones;
5. Trainer or mentor should develop and apply the view that no single answer is right or wrong.

Many possible solutions and explanations are possible; what was important is for the participant to justify his/her position.

During mentee presentations, the mentor asked the '*why*' question more frequently. According to Jackson (1992:03) lecturers' research competence training is a staff development intervention to increase ability, skill and insight. These variables, which refer to participants' cognitive and psychomotor development, were satisfied at each mentoring meeting starting point. In assignment two, participants switched their roles from that of author-researcher to peer reviewer implementing standards that they formulated (Appendix Three, peer blind review sheet). Insight into what reviewers look for were developed during desk research and enhanced during the mentor meeting (b), applied during paper peer reviews and evaluated during peer comments to review reports during the mentoring meeting (c).

The review exercise (two of the five papers hade errors and three were good) exposed mentees to a challenging exercise. Evaluative skills were developed. Matthew stated this clearly, "*The key question is*: *Why should I say the paper is publishable or not?"* This requires the participant to carry out dummy paper documentary analysis for conclusive evidence to support their decisions. Higher order synthesis skills were developed in writing the review report to present at the mentoring meeting (c). In addition, technical skills such as use of computer to type and present report on power-point were also developed.

5.4.3 Mentoring Meeting (c)

The third mentoring meeting was held on 22nd June 2013 in one of the classrooms at the university. The participant chairperson welcomed all members present. Participants presented their ratings of dummy papers. Participants rated each dummy paper's abstract, background, literature review, research methods described and the findings. The quantitative results are presented in the next paragraph.

5.4.3.1 Quantitative Results

Participants' ratings for each of the five aspects evaluated for each dummy were coded using the rating scale: poor = 1, improve = 2, satisfactory = 3, good = 4 and very good = 5. The average dummy rating per aspect was recorded and presented in the descriptive statistics table 5.9 below. The symbol n, denotes the sample size, $\sum x$ is the sum of the ratings per dummy paper, $\bar{x}$ stands for the dummy mean score and s_x represents the dummy's standard deviation rating score.

Table 5.9: Dummy paper research aspects: Descriptive Statistics

Dummy	Dummy paper aspect ratings					N	$\sum x$	$\bar{x}$	s_x
	Abstract	Background	Literature	Methods	Findings				
D1	4	3	4	4	4	5	19	3.8	0.5
D2	4	4	4	4	4	5	20	4	0
D3	1	2	2	3	1	5	9	1.8	0.8
D4	3	2	1	3	2	5	11	2.2	0.8
D5	3	4	3	3	4	5	17	3.4	0.5
				Totals		25	76		

Table 5.5, findings corresponds well with participants' qualitative evaluation of dummy papers. Dummy papers D1, D2 and D5 were rated as publishable and dummy D3 and D4 were rated as rejects. The mean ratings for rejected dummies were all below 3 which is a satisfactory rating. Consideration of each paper's average ratings shows that these mentees concurred that dummy D2 was good. Its standard deviation is zero showing no deviation. For failing dummies D3 and D4, mentees had diverse perceptions, hence a wider standard deviation (0.8) of ratings.

The mentor raised the following pair of statistical hypothesis:

H_0: There is no significant mean difference in mentees' dummy ratings.

H_1: There is a significant mean difference in mentees' dummy ratings.

Since data is in frequencies and seeking to confirm differences (variance), a One Way Analysis of Variance (ANOVA) was carried out at 5% level of significance. The ANOVA Table 5.7. was generated.

Table 5.10 ANOVA

Source of Variability	Df	SS	MSS	f-Ratio
Between Dummy Variability	$V_1 = 4$	14.75	3.69	9.7
Within Dummy Aspects Variability	$V_2 = 20$	7.6	0.38	
Totals	24	22.35		

At 5% level of significance, $V_1 = 4$df and $V_2 = 20$df, the critical value, $f_{critical\ value} = 2.87$. The calculated value, $f_{calculated\ value} = 9.7$ from table 5.7. Since $f_{critical\ value} = 2.87 < f_{calculated\ value} = 9.7$. The null hypothesis was rejected. It can therefore be concluded that there was a significant difference in mentees' ratings of the dummy papers. The hypothesis test confirms that mentees can distinguish a publishable paper from a rejectable paper. It can also be inferred that mentees developed peer review skills. There is a small within dummy variability of 0.38. The next paragraph presents the qualitative results.

5.4.3.2 Qualitative Results

Participants observed several strengths from the dummies.

Matthew supported the publication of dummy A, "Experiences of day scholars in boarding schools in Zimbabwe" on the following strengths: "*It is addressing a real problem which has not received much attention from researchers. The presentation of findings includes direct*

quotations which enable readers to assess the situation themselves. This is a good sample of qualitative research."

Mary added, "*I actually got emotionally disturbed. I have a child who is a day-scholar in a boarding school. The reporting is good. Readers can be involved in the study. Findings are sources of action by parents who govern these schools.*"

Morden mentioned, "*Besides that, findings from this paper should be implemented. Unfortunately not all school heads and parents have access to the paper."*

Mark focused on the strength of literature, "*Since this area is relatively new in Zimbabwe, one can find it difficult to locate literature. I find it a strength for this paper to chronicle literature which shows that inclusion is not the best academic mode in Zimbabwe."*

Participants raised several weaknesses for D3, "The causes of high failure rate in Mathematics in Zimbabwe at "O" level." It was scored least and rated for rejection. **Modern** pointed out that, "*This paper is an outright fail and reject. First, we cannot establish causes by asking questions. Causes are established through experiments and interventions."*

Maurice criticized the paper in these words, "*I recommend a rejection for this paper. While the topic is focused on Zimbabwe, the whole country, the study collected data from a single school. Two teachers can not have all the factors or causes for pupils' failure in mathematics in Zimbabwe. Findings cannot be valid for Zimbabwe."*

Mary focused on the sampling methods, "*I don't think the author has knowledge of sampling techniques. Look, randomly is used in quantitative research but this author is using it for qualitative research. Actually, the researcher should have applied purposive or convenience sampling since he/she collected data from one school."*

According to **Mark**, *"The findings from this study are not addressing the problem. None of them is based on the teaching of mathematics. Since the focus is in mathematics, readers expect results which are specifically for mathematics. What we have here are management issues. There are no recommendations for mathematics teachers. This must be rejected for contributing nothing to the affected population and the field of mathematics."*

These qualitative findings tally well with the quantitative findings in Table 5.6, reflecting that mentees can now tell a publishable from a reject research paper. The mentor set mentees on their third task of carrying out research whose end result is a publication. Mentees started their data collection in July 2013.

All the participants were from the Institute of Lifelong Learning of which I am a member. Belonging to the same Institute of Lifelong Learning facilitated the development of informal channels of communication between participants which is important for people whose learning is guided by communities of practice (Wenger, 2007). Only one female, Mary, volunteered to participate.

Participants' choice of topics was influenced by their backgrounds in education. The Institute encouraged them to use the opportunity for community outreach programmes. As a result, participants carried out new studies in schools from different parts of Zimbabwe. From this angle, one can deduce that the implementation of this model promoted lecturers participation in the community. It fulfilled individual lecturer's needs, Institute expectations and schools' needs. The horizontal arrows (Fig 5.3) between mentee and mentoring meeting (d) show mentorship provided to individual mentees. A one-on-one (mentee to mentor) was done to monitor, motivate and solve problems experienced by individual mentees. Here the mentor takes the supportive role of encouraging and solving problems which are emphasized in Hewlett-Packard model (1997). Each mentee evaluated own work and applied requirements of a good research paper to research and wrote a publishable paper. Mentor-mentee interactions facilitate wave progressions illustrated by Beetham's (2004) apprentice skills wave progression learning schema. Again,

report writing skills were developed in the process. Mentees now assumed the role of researchers.

5.4.4   Mentoring Meeting (d)

Mentoring Meeting (d) presented as cycle (e) was scheduled for the 14th September 2013. No group meeting was held. Participants submitted four copies of their paper to the mentor who now assumed the role of an editor. The mentor received papers and distributed them back to mentees for blind peer reviewing. In this case each mentee reviewed everyone's paper except theirs. They reviewed four papers each since they are five. At this stage mentees assumed the role of a peer reviewer using the schedule which they structured (Appendix Three). This was a second time peer reviewing role. The mentor taking the role of an editor reviewed every mentee's paper for quality control. Reviewed papers and comments were returned to mentors for mentoring meeting (f) on 5th October 2013. The mentor returned mentees' peer-reviewed papers and comments to mentor authors and instructed them to:

Edit their paper factoring in corrections indicated by peer reviews and submit the final paper for a journal peer review and publication.

Two points about participatory action research noted by Blanche and Durrheim (1999) need attention here. First, research is conceived of as the joint effort of a facilitator (mentor) and a group of people (mentees) aspiring to solve their real life problems. Second, participants decide how to disseminate and how to link results to implementation.

The implication of the first point is that participants were free to publish their papers as co-authored or group-authored papers. The participant being the principal author whose name is first on his/her paper. The second point implies that participants were free to send their papers to journals of their choice or publish in one journal as a special issue. At this stage the mentor played an advisory role. In fact, Levinson (1979) expects mentors to guide, counsel and sponsor their mentees. Wenger (1998) expects a mentor to promote his/her mentees' by exposure through

publication of their work. This study managed to expose mentees through publication of their papers as shown in Table 5.11.

5.4.5   Mentees' research output and experiences

Table 5.11: Lecturer Mentees' papers   N = 5

Name	Paper Title	Date	Journal/Publisher
Mark	Technological development: Managing pupils' cell phones in boarding schools in Zimbabwe	2014	*International Journal of Innovative Research and Development, 13*(2): 187- 197. ISSN: 2278 – 0211
Matthew	Analysis of students' errors on linear programming at secondary school level: Implications for instruction	2014	*Zimbabwe Journal of Educational Research, 26*(1): 54 – 72. ISSN: 1013 – 3445
Maurice	School examinations leakage: Case of Zimbabwe Schools Examinations Council.	2014	*International Organisation of Scientific Research Journals, 19*(4):47 – 54 e-ISSN: 2279 – 0837 p-ISSN:2279 – 0845
Modern	Participatory water sources management model for schools: Case of Buhera district, Zimbabwe	2014	*International Organisation of Scientific Research Journals,19*(4):21 –32. e-ISSN:2279 – 0837 p-ISSN:2279-0845
Mary	Managing pupils with HIV/AIDS in primary schools in Zimbabwe: A policy issue.	2014	*Journal of Public Policy and Administration Research*.

5.4.5.1 Mentees' Papers

One of the strategies for developing skills is to identify what the learner has done well and his/her weaknesses. Part of the mentoring process activities included blind peer reviewing of mentees' papers. Its purpose is to identify paper strengths and weaknesses. Journal editors' comments were also rich sources of mentees' papers' strengths and weaknesses. Their comments improved the structures of their papers. Journal editors included two reviewers' comments as feedback to mentees.

Some reviewed papers had comments which raised debate over who or what is correct when journal reviewers raised contradicting comments over the same issue. For example, one reviewer advised Mary to have objectives instead of research questions while the other thought research questions were appropriate. Major reviewer contradictions were found on the statement of the research problem. For example, Modern's study whose title and statement of the research problem is shown below elicited controversial comments from reviewers.

Title: *Participatory water sources management model for schools: Case of Buhera district, Zimbabwe.*

Statement of the Research problem

Several boreholes drilled for schools in Buhera broke down and were not repaired. District Development Fund (DDF), November 2010 monthly report asserts that forty percent of the water points had broken-down. These breakdowns have resulted in the general members of the community particularly women and children being affected. They may be compelled to resorting to unprotected sources of water much to the danger of their health. Schools are also affected in their functioning since water is a health requirement for the operation of a school. Many children are grouped exposing them to water bone diseases. Community projects such as garden projects are also affected due to breakdowns of water points, hence community and school

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incomes are affected. The role of this study is to find management strategies to sustain school boreholes in Buhera district.

Comments from journal reviewers

First reviewer*: The problem is not clear. Do not include what you found from monthly reports. They are findings and should not be included in the problem. Start your statement of the research problem as, "The purpose of this study is* to*......."*

Second reviewer*: A clear statement with evidence of the problem from a practical point of view.* Such comments left novice research mentees confused. The researcher concluded that there may be different perceptions of the statement of the research problem, which require clarification. Of importance is the fact that the researcher advised authors that the paper was theirs. It carried their name, hence they had to make a choice. This section marked the end of the informal mentoring program. The next section presents evaluations from a theoretical perspective.

5.5 MODEL EVALUATION

5.5.1 Model assumptions

The group mentoring model for research skills development is based on four assumptions of mentoring as a tool for skills development by Krishnaven (2008:367):\

1. Deliberate learning is its cornerstone. The mentor's job is to promote intentional learning for capacity building through methods such as instructing, coaching, providing experiences through case studies, modelling and advising.
2. Both failure and success are powerful teachers. Mentors can use them by sharing their experience of failure and success as opportunities for analyzing individual, group and organizational realities.

3. Mentors should talk and share their experiences with mentees to establish rapport which makes them learning leaders.

4. Mentors are encouraged to make learning continuous and not a string of discrete events. Mentoring should be a synthesis of ongoing learning events, experience, observations and thoughtful analysis.

5.5.2   Model challenges

1. The four cycle mentorship process can take up to six months when participants are using their masters' projects. It may take longer when participants carry out new studies. The time factor may not suit adults who want immediate results. One can take comfort from the observation that mentee activities are carried out at their homes away from the mentor.

2. The model's assumption that all participants will attend all mentoring meetings can be a problem if mentees are not committed. I found that lecturers were committed volunteers motivated by the need to publish.

3. Application of the model in a formal setting may be a problem. The issue of matching mentor and mentees' needs, handling gatekeepers and the red-tape may slow the whole process.

5.5.3   Model's strengths

1. Group mentoring model is derived from a model for educational design process (Reynolds, 1994: 30), hence contains the essentials of an educational curriculum model.

2. It is activity based, with group and individual feedback catering for the needs of adults learning theories.

3. Use of peer group feedback capitalizes on the strengths of formal and informal learning strategies.

4. Model can be applicable to any groups of academics, for example university lecturers, lecturers in teachers colleges or schools of nursing.

5. Evaluation of learning activities is done by individuals themselves and by their peers. Natural informal learning and evaluation techniques are applied. Success indicators are derived from the nature and extent of programme action and perceived consequences.

6. Each cycle has success indicators which show progress and motivates participants.

7. Data validation for this model is by triangulation process, participant confirms standards from literature, is supported by group members and perceived change practice.

8. The model satisfies Walton's (1999) criterion of a good model by having inputs, process and output at each cycle.

9. There is a possibility of at least three publications for each participant.

10. The proposed model has both an internal validation from participants and their presentations and an external validation from peers and journal peer reviewers' comments on submitted participants' papers.

11. Model is cost effective. Mentees can develop themselves at a minimum cost. There are benefits for the mentee, mentor and organisation.

5.6   PROGRAMME EVALUATION INTERVIEWS

Programme evaluation interviews were carried out by the researcher and five mentees who participated in the mentoring model implementation programme. Interview guide questions sought answers to research questions 4, 5 and 6 as shown in Table 5.12 below.

Table 5.12: Interview guide questions and aspects captured   **N = 5**

Cluster questions	Aspect brought out	Research question addressed
5a, b, c, d, e, f, g, and h	Participants evaluation of their previous research projects quality Participants experiences with mentoring model Model contribution to mentees' professional development Recommendations to improve informal group mentoring model	4, 5 and 6

I interviewed one participant per day. Data was analysed by reading through the interview transcriptions (Appendix Five) and categorising issues raised into themes corresponding to the research question answers required. Findings from interviews are presented in three major themes: participants' experiences, model contributions to mentees' professional development and improvements on the mentoring model. Descriptions of the participants' experiences, beliefs, attitudes and motivations are supported by evidence mostly in the form of quotations from the interview transcripts. The next paragraph presents participants' experiences.

5.6.1 Participants' Experiences

The purpose of interviewing each of the five participants was to capture their experiences during the implementation of the informal group research skills development model. These formed answers to the fourth research question in chapter one which reads: *What are the experiences of academics implementing the suggested model of lecturer research skills at Mentors University?*

According to **Matthew,** the first task in the mentoring model exposed them to different knowledge searching methods. He revealed his experiences in these words, "*I was not well versed with the internet. I learned to think of link words to use. For example, qualities of a publishable paper.*" The use of *"I learned"* shows that the participant develop new skills.

Matthew experienced challenges with location of literature on qualities of publishable papers. He described his experiences in these words, "*When I got in the library, I had a hard time trying to locate reading material on publishable papers. They have no shelf for that. I had to scavenge for that information for survival.*" The use of *"scavenge"* conveys the notion of picking anything that seemed relevant.

Participants described the discussions of comments from peers and reviewers as a self-improvement experience. It helped participants identify their own limitations, particularly where others point a clear error that one would not have identified. **Mark** made this confession, '*I*

wondered why journal editors rejected my paper three times. It had no purpose or utility value. I never thought about my readers and had not given it to anyone for review."

Another experience that participants pointed out is that they learned to consider and accept criticism as an objective alternative angle. **Matthew** expressed the benefit of blind peer review in these words, *"I read this paper several times without noticing any errors. I am surprised. I think I was reading from my mind rather than the paper. Peer reviewing of papers is just good, an indispensible component of a publishable paper."*

It emerged that researchers should have their papers read by someone else, preferably a person who has knowledge of the subject area, before submission to reviewers. This is important for language, content and trends validation.

Maurice noted that he had a chance to read more about research and its application in educational management. He said, *"Analysis of findings compelled me to critique the teaching process and its requirement for research. In fact, I now can teach research methods much better than I did to my curriculum students. I now see the place and role of research in curriculum designing."* The words *"can now teach"* reveal an awareness of confidence development and ability. Seeing the place and role of research in curriculum designing reflects an increase in applied knowledge.

Participants experienced self-evaluation of their peer-evaluation skills. **Mary** expressed it in these words*, "I benefitted from our group discussion of each dummy. I evaluated my peer-review skills against others."*

Mentees' experiences as a result of publications are presented in the next section. They were indicators of an objective (publication) achievement.

5.6.1.1 Publication experiences

Successful publications as a result of the programme were a concrete source of surprise, excitement and joy. First was Mark who was so excited that he photocopied the acceptance letter and published article for everybody to see. A factor which could have contributed to the acceptance of his paper was that it addressed a problem of interest to Zimbabwe Journal of Educational Research. He corrected his paper only once. The researcher deduced that it is important for researchers to submit their papers to the appropriate journals in terms of content, problem being addressed and readership.

Participants were excited to find their names as researchers online. The Ministry of Primary and Secondary Education was interested in Mary's study, "Managing pupils with HIV/AIDS in primary schools in Zimbabwe: A policy issue." They asked her to develop a comprehensive proposal for funding by UNICEF. **Mary** could not believe it. She informed the researcher in these words, "*Mr. Chinamasa, You unlocked my potential as a researcher. I feel great.*"

She also expressed her fears by saying, *"I have not done a research proposal for funding before. I will come for help."* Her fears supported Hansman (2002) who revealed that one of the weaknesses of mentoring is that mentees may not feel confident enough to continue on their own. The new challenges that mentees experience may prolong the relationship between mentor and mentee. All five participants in this study included me (the researcher) as a co-author in their papers. They thought that it would increase the chances of their paper being published since I already have a publishing record. It also increased my own commitment to the mentoring programme. Admittedly the implementation of the group mentoring research skills development model increased the number of publications for the researcher by five in 2014. The next paragraph examines model contributions to mentees' professional development.

5.6.1.2 Model contributions to Mentees' professional development

The interview question, "*What did you gain from the group-mentorship research skills development programme?"* sought different answers from participants.

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The study contributed knowledge of the qualities of a publishable paper to the professional development of participants. **Mark** proposed that a publishable paper*, "...addresses a real and current problem."* The area should not have been *"researched extensively. Its findings can be applied."*

Modern noted that the study contributed to research project supervision skills. He revealed his realisation in these words: "*I can now confidently request to assist a lecturer supervise a research project. I now know what to look for. The mentoring program developed my knowledge and skills to review, critic and present true constructive comments."*

Matthew also echoed the model's contribution to his research skills development when he said he gained, "*Knowledge of the content of research methods. Communication skills, specifically presenting findings on power-point. I want to accept that, learning did take place on me. I think I am confident that I can go out there and carry out research or even correct others."*

Maurice noted that the study had contributed to his knowledge of using the computer, specifically Excel for graphs under data presentation. He said, "*I learned to identify a real research problem. Carry out a detailed literature review, particularly from **the net**. I gained confidence in the **use of Excel**. I can **now draw graphs** using the computer. The histogram gave me challenges. But I am now able to evaluate another person's research paper for quality. The mentoring was very effective."*

Mentoring contributed knowledge of the link between variables, research questions and findings.

Maurice explained it in these words, "*Defining variables in research is very important. A good research problem must address a real problem. Research questions must direct the study on what you really want. This published paper addressed a real problem."*

Mary reported the study's contribution of a solution to her problem when she noted she had gained, "*Research skills for publication. The most encouraging issue is that, I have a publication*

which I can use to apply for a lectureship post. I got marketed as a researcher to the Ministry of Education and Culture. That is a challenge.”

Although participants reported positive contributions from the mentoring model, they pointed out a few areas for improvement.

5.6.1.3 Mentoring Model Improvements

Participants reported the need for including sessions on computer applications programmes for research. **Mary** illustrated it in these words, “*I received derogative comments from peer-reviewers on data presentation. I could have presented neat graphs if I knew how to use computer excel programs. I could not present graphs with axes labelled because of poor computer skills.”*

Mark added the need for questionnaire designing techniques for quantitative research. He specifically pointed out, *“Designing a questionnaire which can be analysed using SPSS requires special skills. Can it be included in the mentoring program?”*

Matthew called for an increase in group presentations in the mentoring program when he said, “*There can be more group presentations. My paper benefited a lot from the input of others.”*
Three of the participants called for an increase in the mentoring program. **Mark** said, “*It requires more time and support from the university.”* **Maurice** noted that, “*It needs more time, say nine months when detailed fieldwork is carried out. It can be very helpful if it was implemented by the university.”* **Mary** justified the need for time as a way of reducing pressure when she said, “*It has pressure. Perhaps it requires more time for fresh studies as we did.”*

5.7 RESEARCH FINDINGS: AN OVERVIEW

5.7.1 The First Research Question

What factors influence lecturers' research output in new Universities in Zimbabwe?

The study revealed factors classified into three groups according to their origins. Factors associated with the lecturer include: lack of research skills, limited intrinsic motivation for research, lack of knowledge and familiarization with research themes suggested by the university and limited computer skills.

The second set of factors which are linked to the university environment include these: first, the research project supervisors do not mentor students in writing articles for possible publication in peer reviewed journals. Second, Mentors University has no research policy focusing on the development of lecturer research skills and funding of lecturers' research output. Third, was the introduction of journal impact factor for the assessment of lecturers' research submitted for tenure and promotion. That requirement forced lecturers to publish in foreign journals which are expensive. Fourth, the university's demands for a doctorate forced lecturers to concentrate on their doctoral studies at the expense of conducting research to inform and improve their teaching. Fifth, was the policy of awarding tenure to those who have doctorates rather than publications. It diverted lecturers' efforts and motivation to research from conducting research to studying for doctoral degrees. Last but critical is the fact that, the university has not dismissed anyone for failing to publish.

The third set of factors that are linked to the publication system include: the fact that most of the journals in Zimbabwe are not on-line and have not yet acquired an impact factor. That situation renders them unsuitable for research papers submitted for tenure and promotion at Mentors University which requires an aggregate impact factor of 0.5 for papers to be considered. The only journal that the case university has, *Journal of Technological Sciences,* failed to publish in 2013 and 2014. That closed another channel for lecturers' research output.

5.7.2   The Second Research Question

What is the research policy in Zimbabwe's higher education institutions and structures that exist to support lecturer research skills development?

Dye's (1984) defines policy as whatever the government chooses to do or not to do. This view regards action and non-action as equally strong policies. In this study, research policy refers to the actions and non-actions by the university with respect to research in the university.

The study found that there is no research policy guiding Zimbabwe's higher education institutions that support lecturer research skills development. Each institution acts in its own right in the name of research. The Zimbabwe Research Council decides the national research agenda and communicates it to higher education institutions as a call for papers. It organizes research exhibitions. This promotes only those lecturers who already have the skills to research.

Participants appraised the Research Capacity Building Policy as the appropriate for a new university. It focused on lecturer research skills development. It was overtaken by the Research and Resources Mobilization Policy.

The Research and Resources Mobilization Policy focused on the recruitment of lecturers who already hold doctoral degrees. This policy left the novice research lecturer in the cold. Although the doctorate degree holders were expected to mentor others, their job description was silent about this duty. The doctorate holders had large classes to teach. The preferential treatment which they were given by the university created a social gap between them and those they were assumed to mentor. These policies and structures contributed little to the development of novice lecturer research skills.

5.7.3   The Third Research Question

What model can be deduced from the existing competence development models for the development of lecturer research skills?

The study found that an informal, group mentoring research skills development model is ideal in new universities in Zimbabwe. It satisfied Zachary (2000) and was supported by Irvine, Moerman and Rudkin (2008: 22) who suggested that the success of a research mentoring programme can be measured by publications from each of the mentees and the mentoring model. All mentees published (table 5.8 and Appendix Four) as a result of participating in this study at Mentors University. They agreed that the informal group mentoring model is effective for the development of lecturer research skills for publication (true by consensus). All the participants managed to publish, hence the model worked (true by pragmatism). It solved mentees' problem. It indicated benefits for the mentor, mentees and the university.

5.7.4   The Fourth Research Question

What are the experiences of academics implementing the suggested model of lecturer research skills at Mentors University?

Participants exchanged roles of mentee, peer reviewer and mentor during the process. It enhanced sharing of knowledge and expertise between mentor and mentee. Both parties were placed in a learning situation. Mentees carried out desk research and acted as peer reviewers and mentors themselves. Participants also reported being empowered to research and publish. They solved their long-standing problem of failure to publish. They are now waiting to be tenured. They reported acquiring social skills of working as a group and accepting and giving constructive criticism to others. Their use of computers was enhanced. They learned how to present research findings in print and using power-point. Discussions promoted self-evaluation skills. Time management and working under pressure were part of the experiences that

participants reported. More important, mentees were exposed to the academic world through the publications derived from this study.

5.7.5   The Fifth Research Question

How can the refined model contribute to the professional development of academic research competences in higher education institutions in Zimbabwe?

The refined model provides a method for lecturer research skills development in a university. Affected lecturers can form informal research mentoring groups, seek the assistance of a mentor for their skills needs and apply the mentoring research skills development model. Its application developed their confidence in carrying out desk research, peer-reviewing of papers, oral presentation and research publication. Publications enhanced lecturers' professional development through tenure, promotion to senior lecturer and professor. Publications enhanced lecturers' C.Vs. and their exposure to the academic world as researchers. In future, they can use publications as a basis for skills to supervise students' research projects at masters and doctorate levels. They can form research consultancy. In addition, research skills acquired from the mentoring programme provide a very strong basis to undertake doctorate degrees. The model can be applied to other institutions of higher education like teachers' training colleges and nursing schools.

5.7.6   Reflections on Positive and Negative Aspects of Study

An evaluative reflection on this study and its application shows several positives and negatives along the study terrain. This section presents the study positives followed by its negatives.

The first advantage is that the study offers a model for human resource and research skills development. Second, the study contributed clarification of three areas of research: Statement of the Research Problem, Research Design and Probability Sampling Methods. I published a paper

in this regard as part of my participatory activities. In addition, this study provided a possible solution to the problem of low lecturer research output.

Participants' development of social, cognitive, computer and psychomotor skills is another contribution of this study. The university reduces manpower loss due to no publications and lack of tenure. In addition, no employee time was lost during this study. The study applies informal methods which are appropriate to the group. The suggested model's applicability in developing lecturer research skills was tested and proved effective.

However, the first drawback on the success of the study was based on my commitment as mentor/researcher who needed to obtain a doctorate and that of the mentees/lecturers who needed their work to be published. Such a combination of motivated mentor and mentees may not be present when these external forces are removed. Second is the realization that formalization of the study process may prove to be challenging with gatekeepers delaying or blocking the processes. The third observation is that findings of the study cannot be generalized to all universities although the model can be applied with modifications. Last but critical is the observation that it may be difficult for the university to get mentors who can mentor others at no cost.

5.7.7   The Main Research Question

How can research competences of academics in higher institutions be developed with special reference to Zimbabwean higher education?

The study revealed that lecturers can develop research skills for publication by forming informal mentoring groups, seeking the services of a mentor for their respective needs and implementing the informal group mentoring model for research skills development. It involves searching for the qualities of publishable papers and weaknesses of papers rejected by publishers through desk research. This is followed by evaluative reading of published and rejected papers. I strongly recommend reading journals within the same field and subject content, discussion of the

strengths and weaknesses of papers with peers and the practice of research and reporting of findings for publication. Lecturers should seek peer evaluative input for their papers before submitting them to journals for peer review and publication and use criticism and paper weaknesses to improve the quality of their research papers.

5.8   CONCLUSION

This study's main problem was low lecturer research output. Surveys revealed that lecturers are not publishing as expected because they have low research skills. They were not mentored to publish by their research project supervisors. An analysis of the university research policy revealed that the university research policies focus on financial management and are silent on the development of lecturer research skills for publication. As a result no resources are allocated for the development of lecturer research skills. I concluded that lack of a university policy for the development of lecturer research skills affects lecturers' research output in the form of research project supervision and research publications.

Guided by participant action research, I applied the informal group mentoring model at Mentors University with five novice research lecturers. Two had done research at teachers certificate level, one at first degree level and two at masters level. Although three of the participants had attempted to publish, none of the five lecturers had a publication. They were committed to research and publish. We applied the informal group mentoring research skills development model by carrying out desk research, dummy papers' peer-reviewing, carrying out research and peer reviewing the papers before they were sent to journal editors for review and publication. Mentees factored in criticism from peer reviewers to improve the quality of their papers. All mentees' papers were accepted and published by different journals. Mentees' publications are indicators of the successful development of mentees' research skills for publication. We concluded that the group mentoring research skills development programme worked. It solved the problem of low lecturer research output due to lack of skills.

CHAPTER SIX
CONCLUSIONS AND RECOMMENDATIONS

6.1   INTRODUCTION

This chapter concludes the research study by providing a summary of the research findings and, citing some contributions that the study has made to theory and practice. The chapter ends by making recommendations that will improve delivery of the academics research output in the form of published articles in accredited journals, academic book chapters, presenting papers at both national and international conferences and conducting research to improve their own teaching. The primary aim of the study was to explore and describe factors contributing to lectures low research output and seeking ways to develop their research skills. Consistent with this primary aim, the main research question was:

How can the research competences of academics in higher institutions be developed with special reference to Zimbabwean higher education?

Five secondary research questions accompanied the main research question. The first research question made an inquiry into factors influencing lecturers' research output in new Universities in Zimbabwe. Research question two required an exploration of the research policy in Zimbabwe's higher education institutions and structures that exist to support lecturer research skills development. The third research question was centred on models for developing lecturer research competency, how these models were critiqued and are applied. The fourth research question inquired on the experiences of academics in their effort to conduct research. The fifth research question required recommendations that could be made to improve   academics' research competency skills in higher education institutions. These five research questions helped set the delimitations and finiteness of the study. Its findings are summarised in the next paragraphs.

6.2   SUMMARY OF RESEARCH FINDINGS

6.2.1   Findings from Literature Review

The theoretical perspective that underpinned this study is the community of practice theory (cf. chapter 2). In this study the theoretical perspective guided mainly the methodology and influenced most of the recommendations and suggestions proffered by the study.

The literature study had a dual purpose. First, the literature provided an overview of regional and international trends in the conceptualization of academics publications skills in general, and as an educational issue in particular. Insights gained from these regional and international trends provided knowledge established on the problem. This helped the researcher to identify and understand the problem, that is, the context and the theoretical perspective of the problem. This enhanced the justification of the study. Second, the literature identified other studies, showing their findings, strengths and limitations and thus the researcher could glean important suggestions. In so doing, the literature study informed and justified the research methodology and enhanced the credibility of the study. Having provided the purpose of the literature study as regards this research, the next sub-section briefly looks at the content of the literature studied.

6.2.2   Content coverage of literature studied

Literature review which Punch (2006) classifies as the pre-empirical research stage, explored possible competency development models to provide a theoretical basis for lecturer research skills development during the empirical stage. A contextual analysis focused the study on the university research policy. It revealed that there is no specific document called research policy in the case university to guide research skills development activities. Since research policy is whatever the university decides to do or not do in research, the study considered activities during the tenure of the Research Board, Research Capacity Building and Research and Resource Mobilization as research policies. An analysis of these documents revealed that the Research Board was focused on the control of funds allocated for research. The Research Capacity

Building Board was formed with the aim of developing lecturers' research competency. Its policies were not implemented. The Research and Resources Mobilization Board abandoned lecturer research skills development for the recruitment of professors and PhD holders. It introduced the need for lecturers to identify the journal impact factor (Human Resources Academic Promotions Form Number 25, point 3) for the assessment of the quality of research papers that they submitted for tenure and promotion. This policy made it difficult for lecturers to publish. Measured against Erway (2013) requirements of a university research policy, Mentors University research policy would score 2 out of 9. It has some priority areas and suggested partnership with industry for cost sharing. This study concluded that this university's research policy has nothing for the development of lecturer research skills and did not promote lecturers' research output.

Theories of adult learning by Knowles (1984), Rogers (1986) and Pauro Freire (2000) pointed out that this study's population is composed of adults requiring special methods of skills development. They are comfortable with informal learning methods in small groups. Carr and Kermis (2001)'s work encouraged the application of apprenticeship models. Its strengths are in the axiom of observe, plan, act and reflect which promotes both the psychomotor and cognitive skills of the participant. For this study, apprenticeship faced the challenge of a lack of serious lecturers involved in research to attach willing research mentee lecturers.

Communities of practice theory by Wenger (1998) suggested that learning is a social activity resulting from experiences of participation in daily activities. This theory encouraged the study to use group methods in which discussions, presentations and peer evaluations promote a social learning environment. Group methods were ideal for a lot of adult learners and limited research mentors. Parsloe (2000) stressed the need to guide, support and encourage adult learners. This requirement demanded the application of mentoring as suggested by Aubrey and Cohen (2007). To that end, attachment, multiple mentor, peer-mentoring, e-mentoring models and their successive phases were examined. The chapter concluded that lecturer research skills can be developed by designing an informal group mentoring model to cater for the many lecturer mentees against limited willing research mentors.

6.2.3 Findings from empirical investigations

In this study, both qualitative and quantitative studies were contacted. The study carried out document analysis, mainly Mentors University research policies. Literature provided the basis for the structuring of the informal group mentoring model for research skills development. This was followed by surveys using questionnaires, to understand the research environment and how the policies were implemented and received by lecturers. In addition surveys helped to identify factors which influenced lecturers' research output in the university. The informal group mentoring research skills development model was implemented by one mentor and a group of five lectures (mentees). These were interviewed to evaluate the programme from participants' perspectives. The next paragraphs present the results of this study under the methods used.

6.2.3.1 Document Analysis

At national level, the Research Council of Zimbabwe formulates national research themes and communicates them to institutions of higher learning through call for papers. It organizes research exhibitions and creates a research data base for Zimbabwe. Currently, the Research Council of Zimbabwe is cooperating with University of Zimbabwe, Harare Institute of Technology, Africa University and National University of Science and Technology in community research projects. It has limited influence on research policies in the university. I concluded that the Research Council of Zimbabwe promotes research for doctors and professors who already have the research skills. It does not organize research workshops for skills development hence does not promote lecturer skills development.

Mentors University research board policies focused its activities on the control of research funds. It funded more lecturers going for research workshops and seminars rather than conferences. It contained nothing on the development of lecturer research skills on its agenda. I concluded that the research board policy adopted from the mother University of Zimbabwe was not appropriate for a growing university.

The Research Capacity Building Policy was appraised by lecturers as the most appropriate one for them in a developing university. Unfortunately, the policy was not implemented. It was superseded by the Research and Resources Mobilization Policy. It had no practical contribution to lecturer research skills development and lecturer research output.

The Research and Resources Mobilization Policy abandoned the development of lecturer research skills by recruiting doctors and professors who were assumed to have the research skills. These were expected to develop research skills by mentoring and supervising post graduate students. The focus on post graduate students left lecturers in the cold. The research and resources mobilization policy also assigned the editorship of *The Journal of Technological Sciences* to lecturers with doctorates who themselves had no journal editorship skills, will and commitment to the journal's work. The journal failed to publish hence closing a research outlet in the university. That outcome affected lecturers' research output. It can safely be concluded that the Research and Resources Mobilization Policy does not promote lecturer research skills development and output. Although Resources Mobilization Policy introduced the need to include journal impact factor for promotion, document findings suggest that journal impact factor should not be used to assess the quality of research. It was not its purpose and is folly to implement a wrong instrument. In addition, the requirement for lecturers to study for PhDs affected their time for research hence did not support lecturer research output.

One of the factors revealed in interviews and mentees' papers is the fact that novice researchers have misconceptions of the statement of the research problem, research design and probability sampling techniques. I concluded that another factor militating against lecturer research output include misconceptions on research concepts such as the statement of the research problem, research design and probability sampling.

6.2.3.2 Surveys

Survey results revealed that lecturers were pressed to research and publish by external factors such as the need for tenure and promotion. The university provided the basic structures like the

library, computers and internet. Lecturers' efforts to publish were hampered by their lack of research skills and research mentors to guide them. The situation was aggravated by the teaching of combined large classes of undergraduate students. This finding support Ntiamoah-Baidu (2008) who noted that university enrolment was exploding at undergraduate level at the expense of post-graduate level which promotes research. In a typical case, one lecturer for research methods and statistics and one assistant lecturer had 1 870 students. This teaching load deprived the lecturers of time to research for publication and research to inform their teaching. I concluded that the university infrastructural input to promote lecturer research was eroded by the teaching of large classes.

The university has no specific policy on the development of lecturer research skills. It is silent on the publication of students' research findings. The majority of students and lecturers approve that research findings from students should be published. They concur that the student be the principal author of any published work from his/her research. The study concluded that the absence of a policy on the publication of students' research discourages lecturers from publishing research from students' research projects. The policy omission can promote lecturer research output.

The majority of lecturers participating in the survey objected to the application of the journal impact factor for the assessment of the quality of lecturers' research submitted for tenure and promotion. They argued that it is a retrogressive intervention rejected by the creator of journal impact factor, Garfield in 1989. It increased costs of publication in foreign journals and was a strong route of foreign currency externalization. The study concluded that the introduction of journal impact factor did not promote lecturer research quality and output.

6.2.3.3 Interviews

Participants showed that they learn from each other when informal teaching methods are used. They expressed gaining research insights from their involvement in the group mentoring process and subsequent success in publishing. The application of the suggested group mentoring model

was rated as a successful method of solving the problem of low lecturer research output. In this study it achieved a 100% success. All the five mentees managed to publish. I concluded that informal group mentoring research skills development model can be used with lecturers who have the basic knowledge of research at certificate, first degree or masters' degree. Critical elements for the success of this model are: participants' and mentor's commitment coupled with informal organizations prioritizing participants' contributions. Interviews also revealed that participants experienced challenges with the statement of the research problem, probability sampling methods and the research design.

6.2.3.4 Researcher's experiences

My successful experiences in the application of self-assessment (an intervention) to improve students' performance in research projects encouraged me to approach the problem of low lecturer research output from an experimental angle. I designed the group mentoring research skills development model and implemented it at Mentors University. The five mentee participants for this study successfully published in different journals. That was a 100% success rate for participants.

I also noted that I developed my own research skills. Noteworthy is the use of document analysis as a research method in its own way. I used document analysis as a full research methodology for the evaluation of the university research policy, clarification of the statement of the research problem and probability sampling methods. All the papers were accepted for publication. The acceptance of the papers after peer review shows acknowledgement of the contribution in the academic field. I concluded that I have contributed knowledge on the statement of the research problem, the research design and probability sampling methods. This is important for mentees and other novice researchers.

In addition, participating in this study intervention enabled me to publish on-line. On-line publication was a marketing tool for me. I started receiving unsolicited invitations from different journal editors asking me to send my papers to them. Adverts like this '*Publish Now! 70% less*

price' (Researchjournali[TM], 2014) are now common in my e-mailbox. I concluded that this study helped me to be popular among research publishers. My main challenge is funding for publication. I experienced that funding is a factor militating against lecturer research output.

The research findings suggest the solution to the problem of low lecturer research output in new universities in Zimbabwe. Lecturer research skills can be developed by the application of the recommended policy of lecturers publishing students' research and the group mentorship research skills development model. This knowledge contribution is true by coherence (findings concurred with previous findings), consensus (all participants agreed that the model is effective) and pragmatism (the model worked, participants with research at certificate, undergraduate and masters' level managed to publish). Lecturers who had failed to publish now have a publication. Their problem has been addressed.

6.3   CONTRIBUTIONS OF RESEARCH

The study has contributed to both literature (theory) and knowledge (applied/ practice)

6.3.1   Contributions to Participants Research Skills Development

This study contributed the following to participants' research skills:

1.   Research skills for publication from a non-publisher to a publisher;
2.   Research confidence, social interaction skills (from group activities), psychological skills of handling criticism (from peer reviews), time management skills, social status, and research teaching methods;
3.   The solution of their problem of failure to publish;
4.   Ability to change roles from mentee, peer reviewer and possibly research mentor.

6.3.2   Study Contributions to Researcher Development

One advantage of using participant action research is that both participants and researcher are equal learners. This study has six notable contributions to my profession in research:

1.   Improvement in the teaching of research methods. I can now teach both quantitative and qualitative research methods with confidence. I used to do quantitative research. This study opened a door for me to access and use qualitative methods. I managed to apply, for the first time in my research studies, documentary analysis as a research methodology in its own right;

2.   Development of confidence in the application of interventions (informal group mentoring) to solve a practical problem (lecturers' low research output);

3.   Development of training and research workshop facilitator's skills;

4.   Development of editorial skills for evaluating research, writing constructive criticism and mentoring others in research;

5.   Improved my visibility within the academic community as a researcher and publisher (Journal Editors now post requests for papers on my e-mail on a daily basis);

6.   Developed my understanding of the research process. It was a very rewarding exercise for me as a researcher.

6.3.3   Contributions to Theory

The experimental intervention methods that I used in this study can be integrated in different human resources practitioners' repertoires. They provide alternative explanations of how research skills can be developed in institutions of higher learning in Zimbabwe. The second contribution is that the study generated debate on theoretical perspectives of the statement of the research problem, research design and probability sampling methods. More important is the extension of the application of Wenger (2007) communities of practice and Paulo Freire's philosophy of people solving their own problems when properly guided in research.

6.3.4 Contributions to Practice

The first practical area that this study can influence is the formation of informal group – mentoring research skills development groups by the affected lecturers. The study has provided formative evaluation on university research policies. Notably is the observation that the case university is operating without a specific university research policy focusing on lectures research skills development. The second contribution is from the emerging theme of the journal impact factor. Lecturers noted that it is not appropriate for the practical assessment of the quality of lecturer research. This finding helps the university promotions committee understand the basis of lecturers' objection to the application of journal impact factor for the assessment the quality of their research. The findings can provide a basis for the withdrawal of the policy requiring lecturers to identify journal impact factor on research submitted for tenure and promotion. Loopholes in the university research policy can improve the formulation of the university research policy.

This study informed my teaching of adult learners. I developed group management techniques. The suggested policy recommendation for the publication of students' research has already been adopted by Mentors University for implementation next year 2015. Findings from Mary's study were adopted by the Ministry Education, Sport and Culture to be funded by UNICEF and AIDS Council of Zimbabwe. The group mentoring research skills development model can be adopted for implementation by different institutions.

6.3.5 Contributions to Organizations

This study contributed to the development of university lecturers' skills at no cost to Mentors University. It improved the quality and qualifications of mentee lecturers and the researcher. The university did not lose time in manpower development for participants' education. The university promotions committee got explanations for objections concerning the application of journal impact factor in the promotion of lecturers. Findings from each of these papers were given to the university research director for presentations during promotions committee meetings. The

university also got feedback and a basis for the formulation of the university research policy. There is faster induction of novice lecturers into research for publication. The study thus promoted human resource (lecturers) development at no cost. Study findings improve succession planning for lecturers in research and research project supervisors. More important for the university is the reduction of lecturer turnover on the basis of no-publication. Hopefully the study will in due course also help to increase productivity and research output by lecturers. Above all, I am convinced that the study increased the organization visibility on the internet through the publications by the participants and researcher which bear the organization's name.

6.3.6   Contributions to Field of Research and Human Resources Development

First, the study contributed strategies and interventions for the development of academics research skills in higher institutions. Second was the extended application of mentoring to the development of academics research skills. Third, there is the possibility of study model application to other areas of human resources development. Fourth, as a result of this study, I contributed educative clarifications on the statement of the research problem, the research design and probability sampling methods. The acceptance of these papers by academic journals with high impact factors is an endorsement of their contribution into the academic world.

6.4   STUDY LIMITATIONS

Although the study fulfilled its aims, there is need to consider certain limitations inherent in the study process. Firstly, these findings from a case study cannot be generalized to all newly established universities in Zimbabwe. Some universities, such as the Midlands State University, National University of Science and Technology and Africa University already have research policies which focuses on the development of lecturer research skills. Findings from one university cannot account for the different environmental factors influencing lecturers' research output in other universities. However, the purpose of a case study partly carried out within the qualitative genre is to understand in depth and not generalise findings. Stake (1995) recommends it as providing the researcher with an opportunity to learn during the study.

Although Denscombe (2010) argues that there is no single, best scientific method that can lead the way to indisputable knowledge, the mixed method is limited by missing certain essential features from each method. For example, by streamlining social behaviour indicators to measurable variables to apply quantitative methods, the study lost rich descriptions of real life experiences.

Qualitative methods used when reporting findings in this study had the following limitations. By summarising participants' words, the researcher lost something of the original which might have had different emotional connotations. Care was taken to present findings as direct quotations so that, readers could make their own deductions.

It should be noted that this study collected data using self-reporting instruments such as questionnaires and interviews. Their limitation is that, sometimes respondents do not record what is true due to language barriers or the halo effect. However, the researcher reduced the negative effects of this by using more than one method of data gathering.

The lecturer participants for this study were seriously affected by the problem of low research skills for publication. This was a strong motivator for their committed participation in the study. This may not be the case elsewhere. I, the mentor/researcher, was motivated by the need for a doctoral degree. Other mentors may need payment for their services. The key word in the application of the informal group mentoring research skills development model is voluntary participation in which both participants and mentor are motivated by the need to learn from the encounter.

Being a single mentor limits the objectivity of assessing the study findings. In addition, survey findings from one mentor, pointing at organizational loopholes, may be regarded as structural criticism rather than pointers for areas of improvement.

6.5   RECOMMENDATIONS FOR FUTURE PRACTICE

Most factors affecting lecturer research output in universities are within the university system. Hill (2000) recommends the need for a clearly defined research policy in a university. This study calls for the university to include the development of lecturer research skills in the university research policy. This should be followed by training of research mentors and application of an informal group-mentoring research skills development model to develop lecturer research skills in new universities in Zimbabwe. Bligh (1990) suggests the promotion scoring ratio of research: teaching: management = 40: 40: 20. At Mentors University, the majority of lecturers are not heavily involved in management tasks. This study recommends promotion points to have the order of priority: research, teaching and community service. I suggest the tenure and promotion scoring point ratio of Research: Teaching: Community service = 40: 30: 30 to motivate lectures to conduct research. Where community service replaces management tasks an ideal source of research problems is created. It also promotes university involvement in the community.

The university can introduce university research days in which each lecturer presents his/her research output for that year. Awards can be given for research addressing community problems within the mandate of the university, hence the promotion scoring point ratio of Research: Teaching: Community Service = 40: 30: 30 suggested. Research mentors can be honoured by certificates on university research days. More importantly, the university can consider funding all lecturers' publications bearing the university name. This is a requirement for a university policy raised by Erway (2013) point (6) which reads, the research policy should include, "publication and funding of research from the university." Thus, a lecturer could claim page fees for research papers accepted for publication and conference expenses where a paper is presented. The implementation of funding policies also reduce the research funding huddle noted by Chombo (2000) for lecturer research output through publications and presentations at conferences.

6.5.1   Need for a Paradigm Shift

The findings in this study show four major areas calling for a paradigm shift. First, lecturers need empowerment to solve their problems of low research output. Second, they were not mentored to publish during their research project supervision, hence they lacked research and writing skills. There is a need for mentoring for research skills development programs. Third, the university has no specific policy focusing on the development of lecturer research skills. As a result, there are no funds allocated for lecturer research skills development. There is an urgent need for a policy focusing on the development of lecturer research skills and funding of lecturers' research. Fourth, the senior academics in the university who may be willing to mentor others, lack the technical know-how of mentoring for research skills development. There is need to train research mentors and to recognise their mentoring responsibility.

6.5.2   The New Shift: Towards a Contextual and Encompassing Model

The new paradigm shift for the case university requires modification in five research strategic areas. First, lecturers' orientation towards finding solutions to their own problems by forming informal mentoring groups. Wong and Premkumar (2007) advise that informal mentoring is largely spontaneous and psychosocial. Second, recommendations focus on the aims of the Research Office. Third, is the revision of the university research policy. The fourth shift deals with the research policy on the publications of students' research findings. The fifth aspect is the application of the informal group mentoring research skills development model. These shifts are presented separately in the next paragraphs.

6.5.2.1   Aims of the University Research Office

The Research and Resources Mobilization Office should strive to:

1.   empower members of the university community through research skills development to conduct high quality research;

2.   motivate university members to build a culture of conducting research in groups;

3.   mobilize funds for research skills development;

4.   promote research publications through its journal(s) which can be both on-line and print.

6.5.2.2 The University Research Policy

The university research policy should include these ten aspects:

1.   Development of Lecturer research skills

2.   Copyright of research

3.   Ethics in research

4.   Good research practice

5.   Misconduct in research

6.   Priority areas of the university research

7.   Publication and funding of research from the university

8.   Research data ownership between funding agents and the researcher or students.

9.   Partnership with industry for cost sharing

10.   Sponsorship of post graduate research

6.5.2.3 Policy on Publication of Students' Research Findings

1.   Universities should consider the publication of its students' research findings as part of its research policy agenda. This can be achieved by:

   (a) Establishing a student research unit responsible for the registration and publication of students' research. One or two research lecturers can work in this unit.

   (b) Supervisors should identify good research projects which they may recommend to the unit.

(c) Students whose projects are recommended for publication are offered mentoring for publication to enable them to write a publishable research report from their projects. They could be asked to pay a reasonable amount for the mentorship. This could constitute a fund - raising venture in the university.

(d) A shelf should be allocated for journals containing students' published research from the local and other universities.

(e) The student research unit should market research findings to different implementing organizations. Student researchers can present findings to different targeted organizations on at a University Research Expo or at the Zimbabwe Trade Fair.

2. The student should be credited as the principal author of published research derived from his/her research project work. The student should be able to publish as sole author or principal author with supervisor as second co-author if the supervisor contributed significantly to dissertation results and training towards the quality of the published paper.

3. Doctoral students should publish on their own and provide a copy of the publication to the university students' research unit.

4. Journals should also have a policy on the publication of work from students' research projects included on notes to contributors.

6.5.2.4 Application of Group Mentoring Research Skills Development Model

Lecturers who lack research skills should form informal research groups (to harness collective wisdom as required by Zachary, 2011), seek a mentor or mentors for their needs and implement the informal group-mentoring research skills development model (cf. Appendix Two) which has been tested it in this study.

6.6   AREAS FOR FUTURE RESEARCH

This study initiated four main areas for further research.

First, researchers can evaluate research policies in higher education institutions with lenses focused on their implementation for researchers' competency development. For example, a researcher can carry out a study to answer the research question: *How are university research policies developing lecturers' or researchers' research skills?*

Second, the effectiveness of an intervention can be determined by comparative experimental designs. This study recommends a comparative study in which two groups of participants apply the informal group mentoring research skills development model with the same mentor. In this case, working with the same mentor holds the mentor variables constant. Such an experimental study can reveal the influences of local variables on the effectiveness of the model. Alternatively, an experimental study using a before and after study supported by a hypothesis test for effectiveness can be carried out with one group of participants to determine the effectiveness of the informal group mentoring research skills development model. Another comparative study of the application of mentoring for research skills development can be carried out in Zimbabwe and another country to learn from each other's experiences as a basis for improvement.

Third, a further study could focus on researchers' experiences with the informal group mentoring research skills development model and lessons derived in this way.

Finally, a comparative study could explore the effectiveness of higher education institutions' internal and external mentors during the application of the informal group research skills development model.

6.7   CONCLUSION

This chapter noted that the literature review carried out during the study identified the need for structuring the informal group mentoring research skills development model. Emmerik et al (2005) used mentoring as a tool to train accounting academics at Queensland University of Technology. Communities of practice propounded by Wenger (1998) and theories of social learning by Bandura (1977) encouraged the researcher to apply group work activities in the model. Theories of adult learning by Rogers (1986) provided the basis for the informal group mentoring research skills development model activities. These included individual reading, group discussions and reporting. These satisfied Metodi's (2007) apprentice learning schema of : observe, discuss, reflect and do. The five participants developed their research skills from certificate, undergraduate and masters' level to a publishable paper. The study concluded that lecturers can develop their research skills by forming informal research groups, seek the services of a voluntary mentor and apply the informal group research skills development model.

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a)   LECTURERS' QUESTIONNAIRE

Dear Lecturer

The researcher **Emmanuel Chinamasa** is a student at UNISA carrying out a study on the development of lecturers' research skills. You are being requested to participate in the study by answering questions on this form. There is no correct or wrong answer and no need to identify yourself on this form. Your responses will be presented as grouped data and used for the degree qualification and improvement of lecturers' research in the university. Show your response by a tick in the appropriate box or write on the spaces provided.

1.   Indicate your gender. Male ☐   Female ☐

2.   Show your age group in years.

Age Group	20 - 30	31 - 35	36 - 40	41 - 50	51 - 60
Answer					

3.   How long have you been working at Mentors University?

Work Experience in years	Less than 3	4 - 6	7 - 9	10 - 16
Answer				

4.   How many papers have you published? …………………………………………………...

5.   What factors promote lecturers' research output at Mentors University?
       …………………………………………………………………………………………………
       …………………………………………………………………………………………………

6.   What factors affect lecturers' research output at Mentors University?
       …………………………………………………………………………………………………
       …………………………………………………………………………………………………

7.   What is the research policy at Mentors University?
       …………………………………………………………………………………………………
       …………………………………………………………………………………………………

       (a)   How does it promote lecturers' research output?.

....
....

    (b)   How does it affect lectures' research output?

    ……
    ……

8.   What does the university policy say about lecturers who publish research findings from students' whose research projects they supervise?

    ……
    ……

9.   Should lectures publish research findings from students' research projects?

YES		NO		NOT SURE	

10.   Suggest provisions that can guide the publication of findings from supervised students' research.

    ……
    ……

11.   Should the journal impact factor be used to assess the quality of lecturers' research papers?

YES		NO		NOT SURE	

    Support your answer:

    ……
    ……

12.   Write the number of papers that you published under the year that you published them.

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of publications												

13.   Suggest ways for developing lecturers' skills for research and publishing

    ……
    ……

14.   Write any other information that you would like to be considered for this study.

………………………………………………………………………………………………

………………………………………………………………………………………………

Thank You for Your Time and Cooperation

 b)   *Mentee Interview Guide*

1. Welcome participant/respondent.

2. Introduce purpose of interview and anticipated duration

3. Seek permission to record answers for the study.

4. Inform participants that they are free not to answer any of the questions.

5. Ask the following questions:

a) What were the strengths of your degree research project?

b) What were the limitations of your degree research project?

c) What could have contributed to those weaknesses?

d) What research areas do you need clarifications?

e) Why did you not publish your research project findings?

f) What did you gain from the group-mentorship research skills development programme?

g) What are the constraints of the programme?

h) What improvements would like included in the group mentoring programme?

i) What other comments would like to be considered for the group mentoring programme?

6. Thank participant for the time and answering of these questions.

APPENDIX TWO*:* PEER BLIND REVIEW SHEET

1.   Title of Paper

……………………………………………………………………………………………………

……………………………………………………………………………………………………

Is it short and precise?   Yes [ ],   No [ ],   Requires Improvement [ ]

Does it summarize study contents?   Yes [ ],   No [ ],   Requires Improvement [ ]

Does it capture readers' interest?   Yes [ ],   No [ ],   Requires Improvement [ ]

2.   Evaluate/Rate each of these aspects of the article

Research paper aspects	Improve	Satisfactory	Good	Very Good
Abstract				
Introduction /Study Background				
1. Problem				
2. contextual analysis				
3. research questions				
4. objectives				
5. significance of study				
Literature review				
1. models/ theories/ related studies				
2. relevance				
3. contextualization				
4. critical evaluation				
5. referencing				
Research Methodology				
1. design				
2. instruments				
3. population and sampling				
4. data collection methods				
5. ethical issues				
6. suitability for problem				
Findings				
1. presentation				
2. discussions				
3. link to literature				
4. implications for the problem				
5. utility value				

Recommendations				
1. derived from findings				
2. solve the problem				
3. implementable				

4. What are the article's strengths?

....

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5. What aspects require improvement?

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6. You recommend that the article be: (a) published as it is [ ]   (b) corrected first [ ] or
(c) rejected [ ]
Support your decision by evidence from the article.

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7. Write any other comments about the article (did you enjoy reading the article? Who requires the
article's findings? What did you learn from the article?)

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APPENDIX THREE: MENTEES' PUBLICATIONS

(M1).Technological development: Managing pupils' cell phones in boarding schools in Zimbabwe

By Mark

Abstract

The purpose of this study was to find ways for managing secondary school pupils' cell phones in boarding schools to enhance technological development. It was motivated by the fact that pupils are bringing cell phones into boarding schools against their parents' and teachers' approval. Ministry of Education, Sport and Culture in Zimbabwe, has no policy on management of cell phones leaving schools to operate on a trial and error basis. Data was gathered from cluster samples of 90 pupils, 120 parents and 70 teachers from seven boarding schools. Interviews and questionnaires captured respondents' views. The study found that the majority of parents and teachers are against pupils bringing cell phones to school. On the other hand all pupils want to have cell phones at school. Parents and teachers denied cell phones in secondary schools on the basis that pupils will misuse them by accessing pornographic materials against their cultural values and norms. Cell phones are expensive for pupils. They disrupt concentration on their academic work and promote cases of thefts. This finding contradicts the need to apply technology in education called for in literature and everyday life. Pupils called for cell phones in schools on the basis that they can be used to support educational research, enhances technological appreciation and use. This study recommends that cell phones should be allowed in secondary schools and the following management strategies be implemented. Ministry of education sport and culture allow pupils to bring their cell phones. Teachers' workshops on how to use cell phones for teaching can be conducted. Pupils can be taught how to use cell phones for educational purposes. School servers can be programmed to filter internet sites accessed by pupils by suppressing pornographic sites.

Key words: *cell phones, boarding schools, managing schools*

(M2). Analysis of students' errors on linear programming at 'O' Level: Implications for instruction

By Matthew

Abstract

The purpose of this study was to identify students' errors on linear programming at 'O' Level. It is based on the fact that students' errors inform teaching hence an essential tool for any serious mathematics teacher who intends to improve mathematics teaching. The study was guided by a descriptive survey research design. Data was collected from a purposive sample of 91 mathematics teachers from Makoni and Marondera districts who responded to a questionnaire. This was complemented by an analysis of cluster samples of 162 students' answer scripts for question 10, in Channon et al (2004) page 148, followed by the application of Newman's prompts for interviews. The study found that students: (1) were unable to deduce symbolic inequalities from word problems.(2) Confused the use of inequality signs ($>$ and $\geq$) as a result of their inability to read and follow examples in textbook. (3) Students had problems with graphing inequalities. (4) Only one student managed to deduce the profit function. The study noted that errors were arising from (1) students' low proficiency in mathematical language as reflected by the highest errors at the reading level. (2) Wordy problems which students did not understand. (3) Textbook examples structured for the bright student and (4) Teachers not sequencing their concepts. (5) Pupils with no graph papers had limited teachers' practice exercise assigned. The study recommends the following instructional strategies for teachers:

1. *Structuring introductory exercises which reviews (a) language used in linear programming (at least, not more than, up to..). (b) Solution of inequalities. (c) Programming on the Cartesian plane starting with horizontal ($y < a$, and $y \geq b$) and vertical ($x > a$, $x \leq b$) then a linear combination of $x + y < b$.*
2. *Teach students to read mathematics textbook examples and learn from them.*
3. *Encourage students to read inequality statements as complete sentences. For example: $x > 3$ (x is greater than 3) and $x \geq 4$ (x is greater or equal to 4) to develop the language.*
4. *Schools factor in the cost of a graph book on fees and buy them for all pupils to facilitate practice.*
5. *Use real life examples and learn to use computer spread sheets for linear programming.*

(M3). Participatory water sources management model for schools: Case of Buhera district, Zimbabwe

By Modern

Abstract

The purpose of this study was to find ways of sustaining water points in Buhera district schools. It was motivated by the observation that (40%) of boreholes in the district broke down in 2010 and were not repaired. The situation forced school children to resort to unprotected water sources exposing themselves to water bone diseases. The study contributes to millennium development goal 2, (achieve universal primary education) and goal 7, (ensure environmental sustainability). The study was guided by a descriptive survey. Data was collected from a purposive sample of 198 (teachers, pupils, DDF and NGO officials in Buhera district) who .responded to a self reporting questionnaire. Observations of school children at water points, focus group discussions and analysis of DDF reports complemented the findings. The study revealed that the main water source for schools and the community is the borehole. These are maintained by DDF. Water users role is confined to reporting borehole breakdown. They do not own the water sources that they use. The water points are overused promoting their rate of breakdown. There is no supervision of school children at water points contrary to literature recommendations. Use of plastic spare parts for metal casings contributed to borehole breakdown. The study recommends supervision and education of school children on the proper use of boreholes. The community and schools are encouraged to implement the suggested, "Participatory water sources management model" It promotes community ownership of the water point, its maintenance and sustainability. Skills transfer from experts to the locals is promoted in the process, there by developing the local skills base for water sources repair. Studies on the effectiveness of the model are encouraged.

(M4). School Examinations leakage: Case of Zimbabwe Schools Examinations Council

Maurice

Abstract

The purpose of this study was to find ways of reducing school examinations leakages in Zimbabwe. It was motivated by the observation that, school examinations are leaking in Zimbabwe. The government is losing thousands of dollars when replacing papers that would have leaked. Zimbabwe uses a centralized examinations system hence a leak of one paper affects the whole nation. The study applied a descriptive survey. Data was collected from ZIMSEC officials, school heads and teachers and students using a self-reporting questionnaire, students' essays and an analysis of newspaper reports. The study found that, examinations leaking can occur from the minister of education down to the classroom teacher. Question papers can leak as soft in hard copies. A leaked paper can be identified by a high pass rate off the norm, by a group of students who show identical presentation of solutions to the examinations questions. Study revealed that, school heads and teachers are not employed by ZIMSEC to transport and administer examinations. They are not paid for such services which they carry out on their expenses. Factors contributing to schools examinations leakage include, use of public transport, lack of security from district examinations centers to schools and a demotivated teaching force working grudgingly for ZIMSEC. The study recommends that, teachers be paid for the services that they render to ZIMSEC because they are not employees of ZIMSEC. There is need for ZIMSEC to contract transport providers for examination papers from district centers to each school. ZIMSEC can form a security unit to cater for examinations leakages. There is need for debates on examinations leakages on mass media to raise public awareness.

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(M5). Managing pupils with HIV/AIDS in primary schools in Zimbabwe: A policy issue

By Mary

Abstract

The purpose of this study was to find ways of helping teachers to manage HIV positive pupils in primary schools. It was motivated by the fact that teachers have no resources on which to rely for the management of HIV positive pupils in their classrooms. HIV/AIDS campaigns centred on awareness, preventive measures and have nothing on teachers' care of HIV positive pupils. Teacher education curriculum and the primary school curriculum are silent on the care of HIV positive pupils. The study contributes to the achievement of three, Millennium Development Goals namely: Goal 3, "achieve universal primary education", Goal 4, "reduce child mortality" and Goal 6, "combat HIV and AIDS". The study was guided by a descriptive survey. Data were collected from a cluster sample of 91 primary school teachers who completed a self-reporting questionnaire. This was complemented by data from Opportunistic Infections clinic documents, teachers' pupil health records and focus group discussions. The study revealed that Opportunistic Infections clinic records had 458 cases of pupils who were confirmed HIV positive. Teachers suspected 71 cases and had only 20 cases in their pupil health records. Hence a lot of HIV positive cases are not reported. Some teachers are also not sure as to whose responsibility is it to manage HIV positive pupils in their classrooms. HIV positive pupils are affected by high rates of absenteeism due to illnesses. The school curriculum has no provisions for ill healthy HIV positive pupils. The study recommends marketing of these findings to education policy makers. Further studies can be done in other district to verify findings. Teacher education curriculum can include the management of HIV positive pupils in schools. Workshops on strategies to manage HIV positive pupils in primary schools can be held. Parents can be advised to inform teachers of the HIV status of their children.

Key words: *primary school, HIV positive pupils, policy, managing schools*

APPENDIX FOUR: MENTEE INTERVIEW TRANSCRIPTIONS

Mentee 1: Mark

Monday, 9 June 2014 in Researchers' Office at 9.00am

Researcher: What were the **strengths** of your degree research project*?*

Mark*: As you know, I am a school headmaster. Not hard master [laugh]. My first degree is in educational administration. I researched truancy in schools. The clear strength of that research project is in the study problem being real [I nodded]. The study was in line with my job description.[pause].*

At masters' level, my study was a survey of school heads' views on inclusive education. Its strength was on the relevance aspect. Yes it was relevant to educational management. The population was available.

Researcher*: Where are those two research projects now?*

Mark: *The masters' project is there. I have a copy at home. I did not do a copy of the undergraduate degree project. I think it is because I had one objective when I did the project.*

Researcher*: What was that objective?*

Mark: *To pass the degree. Simple! Just a pass, period!*

Researcher*: Can you remember the **weaknesses** of those research projects?*

Mark: *Lets talk about the masters' project. A survey of school heads' views on inclusive education. I think I lacked guidance from the start. Inclusive education is a theoretical concept and not a practical problem. School heads had vague ideas about it. As a result, the study had no substantial data.*

Researcher*: So, what where its' weaknesses?*

Mark: *It was not a practical problem. Findings lacked insights. Methodology was too general, nothing to write home about.*

Researcher*: What contributed to these weaknesses in you research projects?*

Mark*: Lack of guidance, period!*

Researcher*: Explain what you mean by guidance.*

Mark: *The supervisor and student have no vision of a publication from the study. That limits our level of quality standards to local level. The literature review is just a surface scratchy. No reference to publications and journals. That limits students' exposure.*

Researcher*: Why did you not publish your findings?*

Mark: *That's a good question. I had three attempts from my masters' project, all rejected.*

Researcher*: Why were they rejected?*

Mark*: The first pointed at the research problem. It was not clear hence the study's implications for practice. The second condemned it for having no utility value. Of course, they all agreed that, the literature was a chronicle of definitions of inclusive education. The third rejection revealed that, there were no insightful findings as I pointed out earlier.*

Researcher: *What lessons did you derive from these rejections?*

Mark*: A research project should address a real problem, affecting an identifiable population, period!*

Researcher*: Let us look at your published paper now. What are its' strengths and weaknesses?*

Mark: *Its strengths are: it addresses a real and current problem in schools. It had not been researched extensively in Zimbabwe. It is a controversial topic as indicated in the findings. Findings can be applied in the management of cell phones in schools.*

Researcher*: Which research areas do you need clarifications?*

Mark: *Statement of the research problem and probability sampling techniques.*

Researcher*: What did you gain from the group-mentorship research skills development programme?*

Mark*: A lot. A good paper is a product of author exposure, critic and self-critiquing. The desk research exposed me to a world of cell phone knowledge. Detailed literature review is important. Input from mentor and other members of the group helped to shape the paper.*

Researcher*: What are the limitations of the group-mentoring program?*

Mark*: It requires more time and support from the university.*

Researcher: *What other comments would like to be considered for the group mentoring programme?*

Mark: *I think the university must support it. The mentor did a good job which should be recognised somehow. I now can apply for tenure.*

Researcher*: Thank you for your time and contribution*

Mark*: You are welcome.*

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<u>**Mentee 2: Maurice**</u>

Tuesday, 10 June 2014, in Researcher's office at 9.00am

Researcher*: What was the area of your masters' research project?*

Maurice: *I explored the effects of the gap between the intended and actual curriculum.*

Researcher: *What were the strengths of your degree research project?*

Maurice: *It addressed issues to do with the curriculum, which is my major study area.*

Researcher*: Where is the project?*

Maurice*: A copy is there at home.*

Researcher*: Why did you not publish it?*

Maurice*: I made two attempts without success.*

Researcher*: What were the attempts' weaknesses?*

Maurice*: They say the problem is not clear. I now noted that, Effects of a gap cannot be measured by asking questions. A survey cannot establish effects. What teachers told me are perceptions. So the study collected teachers' perceptions on the difference between the intended and actual curriculum. One of the reviewers actually said, "intended and actual curriculum are not measurable. Let alone the gap. This paper has no utility value."*

Researcher*: But what was the study's research problem?*

Maurice*: I am not very sure. I thought the gap that exists between the intended and actual curriculum. It reminds me. One of the reviewers pointed out that, curriculum was too wide. I needed to narrow the area.*

Researcher: W*hat could have contributed to this weakness?*

Maurice: *Lack of supervision.*

Researcher*: Where you not supervised?*

Maurice: *I was, and these "immeasurable variables" is what we agreed on. I passed the research project.*

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Researcher*: What did you learn from the rejected research papers?*

Maurice: *Defining variables in research is very important. A good research problem must address a real problem. Research questions must direct the study on what you really want. This published paper addressed a real problem.*

Researcher: *I notice that, your paper is not in curriculum studies. What drove you into examinations issues?*

Maurice*: Examinations leakage is a real problem in Zimbabwe.*

Researcher: *What research areas do you need clarifications?*

Maurice*: Data presentation. I find it difficult to decide whether I should present findings according to research instrument question, study research question, emerging themes or hypothesis?*

Researcher: *Can you and me look for the answer to this? What did you gain from the group-mentorship research skills development programme?*

Maurice: *Ability to use technology, write and publish.*

Researcher*: Can you elaborate that?*

Maurice*: I learned to identify a real research problem. Carry out a detailed literature review, particularly from the net. I gained confidence in the use of Excel. I can now draw graphs using the computer. The histogram gave me challenges. But I am now able to evaluate another person's research paper for quality. The mentoring was very effective.*

Researcher*: What are the constraints of the mentoring programme?*

Maurice*: It needs more time, say nine months when detailed fieldwork is carried out. It can be very helpful if it was implemented by the university.*

Researcher*: What other comments would you like to be considered for the group mentoring programme?*

Maurice*: Not much only to thank you for helping us.*

Researcher*: You are welcome, but we all benefited from the study. Thank you for the time and contributions.*

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Mentee 3: Mary

Wednesday, 11 June 2014, in Researcher's office at 9.00am

Researcher*: What was your research area at first degree level?*

Mary: *My major area at college was sociology. My study was on factors considered by primary school pupils during the formation of social groups.*

Researcher*: That is interesting. What did you find?*

Mary*: I found that, primary school pupils consider gender as the major factor. Girls socialise on their own. The influence of gender decreased as the child progress to grade seven. Other factors include age, height and belonging to the same village or family.*

Researcher*: Have you published that?*

Mary*: Not yet. I will work on it, now that I know how and what to write.*

Researcher*: What were the strengths of your degree research project?*

Mary*: I think the findings can be used in grouping pupils in primary schools. Appropriate grouping can promote effective group learning activities.*

Researcher*: Any weaknesses in the paper?*

Mary*: I suppose the literature requires beefing up. Certainly the statement of the research problem and data analysis will be revisited. I know that, I had no hypothesis in it. I can test an association between gender and say class.*

Researcher: *Why didn't you publish such a good paper?*

Mary*: I never thought of it. It did not cross my mind.*

Researcher*: What research areas do you need clarifications?*

Mary*: Proposal writing, research design and probability sampling methods. I am not strong in statistics, this is why I prefer to avoid probability sampling methods. But I think it sounds great to present findings with statistical supporting evidence.*

Researcher: *What did you gain from the group-mentorship research skills development programme?*

Mary*: Research skills for publication. The most encouraging issue is that, I have a publication which I can use to apply for a lectureship post. I got marketed as a researcher to the Ministry of Education and Culture. That is a challenge.*

Researcher*: what are the constraints of the mentoring program?*

Mary*: It has pressure. Perhaps it requires more time for fresh studies as we did.*

Researcher*: What improvements would you like included in the group mentoring programme?*

Mary: *We could include some guys from ICT to cater for our computer applications in research. I have problems with using the computer for graphs and hypothesis testing. That can take care of weaknesses in handling numbers* [chuckles].

Researcher: *What other comments would you like to be considered for the group mentoring programme?*

Mary*: I would like to thank you for mentoring me into a researcher.*

Researcher*: You are welcome. Remember that we were all learning. Wish you well.*

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Mentee 4: Matthew

Thursday, 12 June 2014, in Researcher's office at 9.00am

Researcher*: What motivated you to participate in this study?*

Matthew*: I just wanted to take a chance. I know that, a published research will one day reward me. I am thinking of applying for a maths lecturer's post. There are shortages there.*

Researcher*: Besides this paper, had you done any research before?*

Matthew: *I am not sure whether we can call that research. I designed a simple questionnaire asking for teachers' views on causes of failure in mathematics. This was at a teachers' college.*

Researcher*: Yes, lets' call it research. There was data collection to answer or solve a problem. What can be the strengths of that study?*

Matthew: *It addressed a real problem but its' methods and literature is weak.*

Researcher*: What could have contributed to those weaknesses in your research project?*

Matthew*: I think we were not guided for a real research. Our requirements did not include such subheadings as literature review. My first attempt to publish got a rejection and these comments. "This study is not focused. They are general comments on factors contributing to students failing mathematics. It requires delimiting to a particular sector of the school. The methodology is weak and devoid of sampling methods."* [He stopped as if to allow me to react].

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Researcher: *Then what did you do?*

Matthew: *Nothing really. No I ignored it.*

Researcher: *Why?*

Matthew: *I did not know what to do. It was my first time to meet the word, "delimit".*

Researcher*: What did you learn from this review?*

Matthew*: It only informed me that, I don't know research. It also acted as my motivator to join this mentoring program.*

Researcher*: Do you think you can publish something from your study?*

Matthew*: Yes it is possible with more qualitative corrections done. It may even require an overall of the study.*

Researcher*: What research areas do you need clarifications?*

Matthew: *The statement of the problem and use of computers to test hypothesis.*

Researcher: *What did you gain from the group-mentorship research skills development programme?*

Matthew: *Knowledge of the content of research methods. Communication skills, specifically presenting findings on power-point. During group presentations for reviewed dummies, I noted that, in research a second eye is always better than one. I want to accept that, learning did take place on me. I think I am confident that I can go out there and carry out research or even correct others.*

Researcher*: What are the constraints of the programme?*

Matthew: *Perhaps you will get huddles if you try to formalise it.*

Researcher: *What improvements would like included in the group mentoring programme?*

Matthew: *There can be more group presentations. My paper benefited a lot from the input of others.*

Researcher: *What other comments would like to be considered for the group mentoring programme?*

Matthew*: Only to thank you for admitting me into the program. I have limited means of telling others to use such opportunities of improving themselves.*

Researcher*: Welcome. Have a good day.*

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Friday, 13 June 2014, in Researcher's office at 9.00am

Researcher: *Had you done any research before joining the mentoring program?*

Modern*: Yes. I did a study on Waste Management at the Teachers' College.*

Researcher*: What were the findings?*

Modern*: I found that, students at college did not have clear knowledge of disposing waste from their hostels and lecture rooms. Although they were training to be primary school teachers themselves, their knowledge of classifying waste was low.*

Researcher*: What were the strengths of your degree research project?*

Modern: *It was based on a real problem. I think its' major weakness was in the implementation of results. I was not in a position to implement the findings.*

Researcher: *What did you do with the results?*

Modern: *Nothing beyond submitting them for marks. I had no knowledge of research publication. College lecturers do not talk of publications.*

Researcher*: What are the weaknesses of your paper?*

Modern*: I think if I am to read it again, I could condemn it for poor literature review, and statement of the research problem. Yes, something is there that resembles a research design. The data analysis and results presentation is poor. It is not worth publishing in its' current state.*

Researcher*: What could have contributed to those weaknesses in your research project?*

Modern: *My research supervisor did not have such a high standard of research requirements. We were only required to structure some questionnaire, distribute them to students, collect and analyse data in the form of frequencies and percentages. Nobody talked about hypothesis testing.*

Researcher*: What research areas do you need clarifications?*

Modern*: Statement of the research problem and clarifications on how to present findings in qualitative research studies. Computer application is just critical for me. I can't type.*

Researcher: *What did you gain from the group-mentorship research skills development programme?*

Modern: *Research skills and knowledge. I can now confidently request to assist a lecturer supervise a research project. I now know what to look for. The mentoring program developed my knowledge and skills to review, critic and present true constructive comments.*

Researcher: *What are the constraints of the mentoring programme?*

Modern: *I can't identify any.*

Researcher: *Thank you for the contributions. Have a good day.*