

The Institutional Determinants of Postgraduate Research Output among Students in Moi University School of Education, Kenya

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Abstract

Research is an important and necessary part of modern university education; Universities are considered as producers of new knowledge. The Kenyan universities and other universities in developing countries have been rightly accused of giving more focus to teaching than research. The role of postgraduate students in the life and growth of universities cannot be over-estimated. Universities should therefore encourage both individual student authorship and joint authorship by academics and postgraduate research students in appropriate levels. Based on a study conducted in the School of Education of Moi University, this paper focuses on the institutional factors that impact on the quality and quantity of research output by postgraduate students in Kenya. The study sought to investigate the factors that influence research output among postgraduate students' in Kenyan public universities in order to provide suggestions that will make universities more productive organizations. The study employed a descriptive survey design. The research used stratified random sampling and purposive sampling. The study involved all the 4 departments within the School of Education. A total of 285 postgraduates were selected out of an accessible population of 1148. Eight (8) postgraduate alumnae and three (3) HODs' were also included in the study. Data was collected using questionnaires, interview schedules and document analysis. Data was analysed qualitatively and quantitatively. The findings of the study revealed that institutional factors explained the low research output among postgraduate students in Kenyan public universities. The researcher recommends that the university review its research policies to adequately gather for postgraduates' needs. Postgraduates form the highest constituency of public universities and it is time the research output is seriously interrogated.

Key Words: Institutional Determinants, Postgraduate Research Output, Students, Moi University School, Education, Kenya

INTRODUCTION

According to available literature, there are two main methods of measuring research productivity, namely quantity and quality measurements

Quantity Measurement

This method involves counting the number of publications by a single author or a group of authors over a specified duration. It also includes the number of citations by other authors on the work of others. Quantity measurement can be grouped in to two categories which are: journal article count and Weighted Publication System.

According to Joy (2006), despite the practical importance of scholarly productivity, there is scanty literature outlining standards for scholarship. Research on departmental level productivity is more common; with publication data generally estimated using either of the two methods. The most frequently used measure of the quantity or amount of research productivity is a numerical publication count or the journal article count over a certain time period. The activities included in measuring productivity range from a narrow perspective of ‘number of research articles published’ to a broad interpretation which consists of presentations, both formal and informal, number of graduate students that a staff member is advising, publications of any type and proposals submitted for funding. Moreover, it includes counts of the number of editorial duties, conference deliveries, licenses, patents, monographs, books, experimental designs, and work of an artistic or creative nature, public debates and commentaries (Creswell, 1986). It involves counting the number of books, articles, technical reports, bulletins, and book reviews published, as well as presentations given and grants received through reviewing curriculum vitae or other print materials.

The journal article approach involves perusing selected journals in a speciality, using author affiliations to identify and rank programs in that field (De Meuse, 1987; Joy, 2006). For example, De Meuse (1987) used the *Journal of Applied Psychology* to rate faculty quality of 39 doctoral programmes in industrial – organizational psychology, similar studies have been conducted for faculties in school psychology, social work and educational psychology (Joy, 2006). This approach, however, relies on a narrow, potentially biased measure of productivity. Unless the journals sampled are truly representative of all work done in a field, the record may be badly distorted (Joy, 2006). The approach does not shed much light in individual scholarship, which generally spreads across multiple outlets.

The Weighted Publication System was developed due to deficiencies in numerical publication count. Creswell (1986) seriously suggested that counts of publication need some form of weighting system, particularly, for instance, the comparisons between journal articles and books. Books demonstrate a problem because there are several types of books that cannot be used to measure research performance, such as original scholarly books, theoretical or research monographs, edited books and textbooks. A chapter in a book for readings may also be classified as a book form. Further problems also could arise when equal weight is given to many of the peer-reviewed publications in newer journals whose review standard may be less rigorous than the longer established journals.

Several weighting systems have developed to make comparisons among types of research productivity. Braxton and Toombs (1982) use an objective method of weight assignment by using a panel of scholars of the academic profession or of graduate education to make the assessment when weighting productivity. The judges are asked to rate the publications on scale of zero to ten. The median ratings obtained are then used to construct a scale of the weights.

Quality Measurement

This technique involves surveying one's work by a panel of specialists with a view of rating its quality. The quality measurement technique can be classified into two categories, namely peer review method and citation count technique.

According to Upali, Hebert and Nigel (as cited in Lertpputarak, 2008), peer review refers to a process whereby one or more qualified persons professionally peer review a person's work, generally for publication in a scholarly journal or book. It begins with a sample of academics (or departmental chairs) and surveys them as to their scholarly activities (Joy, 2006). This strategy has the advantage of including all relevant publications, though the possibility of systematic differences between responders and non responders is an issue. More problematic is the lack of quality control with respect to what counts as scholarly publication. Minor works such as newsletter columns, are likely to be included by some faculty thus inflating productivity.

Citation method better reflects the impact of faculty work (Centra, as cited in Lertpputarak, 2008). This approach utilizes data set such as the social science citation index, SSC1 (Joy, 2006). This problem eliminates the problem of differential response rates and controls for scholarly quality, because only publications meeting standards for inclusion in the database are tabulated. However, given that such data sets are incomplete, the figures tend to underestimate scholarly output (Joy, 2006). This approach has been taken in studies of faculty in a range of doctoral programmes as well as in specific fields such as social work and developmental Psychology (Joy, 2006)

Published works are cited as building blocks for ideas, concepts, findings, methods or information on instrumentation. Some are cited for negative purposes or for perfunctory reasons (Creswell, 1986). Nevertheless, in a cited article, not everything is read and found useful. A publication is property, and citing practice is a social device for coping with problems of property rights and priority claims (Kaplan, as cited in Lertpputarak, 2008).

However, citation counts have some important limitations (Creswell, 1986). First, there are substantial differences in citation rates among various disciplines because of the rates of publication and the acceptance rates of journals. Second, significant research may not be recognized for a considerable period of time, but a scholar who has published a number of pieces in a fixed period of time might expect to generate at least a few citations. Citation rates decay substantially and thus a staff member who works for a longer period of time generally have more publications and more opportunity to be cited. Consequently, citation counting must be a restricted compilation to a fixed span of time in both citation sources and the citation documents. Third, a scholar who is a junior author of a piece, and therefore not first named, would be missed in simple counts. Fourth, some surnames are subject to common misspelling by citing authors, and these errors are preserved in the citation indexes. Fifth, citations may be for criticisms and rejections of research rather than its merit and utility. Sixth, several critics of citation tools have noted that self-citations and citation of friends' work may distort realistic measurement. Finally, citation counts do not distinguish between positive and negative

comments about the work. Furthermore, citation indices are subject to a long lag-time because of the long peer review and publication process.

Institutional Factors in Research Output

According to Jones, Lindzey and Coggeshall (1982) the amount of direct expenditures on material support can be used as an indicator of research performance. This is positively correlated with the work of Lertpputarak (2008) who found that the ability to secure research funding can be used to measure research performance. Dundar and Lewis (1998) found that library expenditure measure represented one of the important institutional attribute and that library expenditure was directly proportional to research output.

Generally, the amount devoted in research activities positively correlates with research productivity (Vasil, 1992; Toutkoushian, 2006). Financial support and research fund encourages individuals to be self-motivated and reallocate their time to do research (Lertpputarak, 2008). According to Toutkoushian (2006), a faculty member after subtracting the time used in teaching and other administrative obligations has eight hours left to be divided between research and other personal commitments. Bailey (1992) has found out that an increase in research productivity is supported by amount of time spent on research activities. Williams (2003) has found that the balance of time spent in teaching, research, service and administration can explain a significant proportion of the variance found in research productivity, while total work hours did not explain a significant proportion of variance.

Policy factors are also critical in influencing research output (Dundar & Lewis, 1998; Doyle, 2006; Hemmings *et al.*, 2007). Universities in Kenya are autonomous and have divergent policies guiding supervision of research among postgraduate students. Recently, there has been pressure on lecturers to graduate their students within the stipulated duration. This calls for concerted efforts in the part of the students and the lecturers. Closely linked to this is the fee payment. Students will only defend their proposal after completion of the required fees to cover the expenses of tuition and supervision. Thus economic constraints put a curb on the research output among postgraduate students. Earlier works in developing countries argue for enhanced commitment of resources to research and development in universities.

Dundar and Lewis (1998) have examined research output in American doctoral programmes found that faculty size was important in determining research output. By extension, the number of lecturers in a department can to higher extent influence research output of the postgraduate students within the department. A number of explanations have been offered for this explanation. Key among the factors is the increasing marginal productivity. Small facility sizes are closely linked with low marginal productivity as they do not enjoy economies such as collaboration and reinforcements especially in guiding and supervising post graduate students. In Kenyan public universities, the low research output may partly be explained by small facility size. A variety of factors may explain this. These include high training, recruiting and retaining costs. High work load is promoted by small facility size. This is particularly so in most of the fast growing university systems such as Kenya's.

According to Hemmings *et al.* (2007), there is a close relationship between workload and research output. A student who is highly committed with occupation responsibilities has very little time for research besides being exhausted and thus limiting brain activity to think critically and constructively. The Kenya government launched its Vision 2030 in line with the Millennium Development Goals (MDGs) and stresses on the role of research in the attaining of this vision. The Government's commitment to enhancing research is clearly demonstrated in a variety of policy documents (Kenya, Ministry of Education, 2005b). Migosi *et al.* (2010) argue that the demand to increasingly promote research and development in Kenya is partly motivated by the need to use university as means of enhancing industrial development.

Academic environments and cultures or climates generally provide both socializing and reinforcing organizational messages about norms, values and expectations concerning research (Kuh & Whitt, 1998). The culture of the academic profession includes a series of primary academic values such as intellectual inquiry and understanding, social commitment, academic honesty, academic integrity, academic freedom and faculty collaboration toward a community of scholars (Austin, 1992).

Bland and Ruffin (1992) describe twelve important organizational variables or cultural characteristics that positively influence faculty research productivity. These variables consist of clear organizational goals, a research emphasis, distinctive research culture, a climate balancing between respect and intellectual jostling, assertive participative governance and a flat (decentralized) organizational structure. In addition, Dunder and Lewis (1998) report that high ratios of graduate students to faculty had a high correlation with productivity, and the percentage of graduate students that were hired as research assistants correlated highly with research production.

Besides the institutional factors mentioned above, the leadership of an institution or department is an important factor affecting research productivity. Leadership is a relationship between leaders and their constituents and a subtle process of mutual influence that fuses thought, feeling, and action to produce collective effort in the service of the purposes and values of both the leader and the led (Bolman & Deal, as cited in Lertpputarak, 2008). Leadership plays an important role in research universities because the leadership highlight staff morale and self-esteem (Kerr, 1977).

Statement of the Problem

The Government of Kenya places a lot of emphasis on the role of research in national development (Kenya, Ministry of Education, 2005a; Kenya, Ministry of Planning and National Development, 2007a). There is also clear evidence that universities share the same argument with the Government (Kenya, Moi University Research Policy, 2008). However, there is still an unacceptably low levels of research output among postgraduate students and the entire university members. As such, a number of questions emerge: Why do some postgraduate students take longer than the prescribed period to graduate? Why do graduate students fail to participate in other research activities apart from the thesis? Why do some postgraduate students portray deficiencies in defending their thesis? Why is the publication output in universities low and skewed in favour of academics? Why are

Kenyan universities ranked low in the global university rankings? Why are research findings unutilized and end up in shelves?

The prevailing atmosphere in higher education institutions inhibits the university's ability to sustain and promote conditions that support research achievements. Increased demands on government and private funding, a deteriorating physical infrastructure, increased pressure on undergraduate programmes, and the removal of mandatory retirement have raised concerns about the continued capacity of universities to maintain teaching, research productivity and service to the state (Lertputtarak, 2008). The Kenyan education system is mainly theoretical and exam-oriented and has been widely blamed for its failure to solve immediate practical problems affecting the society (Chiuri & Kiumi, 2005). Postgraduate programmes therefore should be strengthened to make them practical-oriented. This can be done through improved postgraduate research output in universities.

Limitations of the Study

Most of the records on postgraduates statistics were not updated and were not centrally kept in the main campus. The author had to travel to all the campuses to get pieces of information which was then compiled. It was quite difficult to get specific literature on postgraduate research output since most of the prior studies on research output have heavily dwelled on faculty members research productivity. It was particularly difficult to book appointments with heads of department for interview because most of them were too busy and part of the data collection period coincided with the time the lecturers were out for teaching practice assessment. The study only concentrated on a single school in one public university for the reason of finances and time. However, the study has been designed in such a way that is equally helpful to other institutions of higher learning with similar features as the studied institution. The findings of the study are therefore very beneficial to all public universities in Kenya and other third world countries, which face several resource constraints to catalyze research development.

MATERIALS AND METHODS

The study was carried out in the School of Education, Moi University in Kenya. Moi University is located in Eldoret town, Uasin Gishu County, 310 Kms Northwest of Nairobi, the Capital city of Kenya. It lies approximately at 0° latitude and 36°E of the Greenwich meridian (0°,36°E). The School of Education has four departments, namely the Department of Educational Management and Policy Studies, Department of Educational Psychology, Department of Educational Foundations and Department of Curriculum, Instruction and Education Media (Kenya, Moi University Strategic Plan, 2005). The school had a total population of 1148 M.Phil students at the time of study. Out of this, a sample of 285 was used for the study. This School was purposively selected because it had the highest number of both lecturers and postgraduate students and offers its M.Phil programmes in full-time and part-time modules.

This study adopted a descriptive survey research design to investigate the factors that influence research output among postgraduate students in the Kenyan public universities. The approach sought to collect data without manipulating the research variables or the

respondents in an attempt to find out the research output levels as it were at the studied institution. The continuing M.Phil students, postgraduate alumni and heads of departments from the School of Education of Moi University formed the target population for the study. All the four departments were used to provide the required population.

Stratified random sampling technique was used to classify post graduate students. Two levels of stratification were used. The first level involved grouping postgraduates in terms of their departments. The second stratification involved grouping postgraduates in terms of their gender. This technique identifies subgroups in the population and their proportions. The sample size for the study consisted of 285 postgraduate students out of a total population of 1148. Out of the 285 questionnaires distributed, 246 copies were retrieved representing 86.3% return; of this, 240 copies (84.2%) were properly completed and used. Eight postgraduate alumni were also randomly drawn to serve as sample members in the study. Three heads of departments were also randomly drawn to take part in the study in order to provide crucial information on departmental and institutional factors that enhance research productivity of postgraduate students.

The data collection instruments for the study were questionnaires, interview schedules and document analysis. At the end of data collection, the information collected from the postgraduates was critically examined by the author. Coding was then done manually. The analysis and presentation involved the use of descriptive statistics. The descriptive statistics used were the percentages, bar charts, pie charts and graphs.

RESULTS AND DISCUSSIONS

In order to determine the institutional factors that influence postgraduates' research output, the study focused on the following areas: institutional research policy, financial/fee regulations, research fund, university research environment, postgraduate supervision and the university research culture.

Institutional Research Policy

According to Bland and Ruffin (1992), high status institutions have policies that encourage their members to research and publish their articles. Moi University was established in 1984 following the recommendations of Mackay Commission and, like other institutions of higher learning, research is among the key roles of the University. The University has a policy that guides research activities. The University through its mission and vision believes in research for knowledge creation and dissemination. The School of Education has its own policy, which borrows its elements from the overall university research policy. The departments are also required to have their own policies and check their performances right from the ground. The University has a body that funds female lectures and at times female students. This body is known as Institute for Gender Equity, Research and Development (IGERD). IGERD is funded mainly by donor partners. This is a good policy in improving research productivity; however, the policy is discriminatory towards male members of the university.

In the current situation, the University research policy is unclear in supporting research endeavors by postgraduate students since there is no direct fund to the postgraduates. At the present, the supervisors apply for funding and include students only as co-researchers. The University Research Fund (URF), which is mainly obtained through PSSP fee payment, is awarded to all schools on equal basis. The departments within the School of Education have also their own departmental policies concerning research activities. The HOD Educational foundation affirmed that the departmental policies existed.

Our departmental policy is that a panel seats down and listens to proposals. If the topic is researchable the students is assigned two supervisors after which it's the students and lecturers affair to refine the study until the final defense of the Thesis.

There are policies that require external examiner to mark students' thesis. The HOD Educational psychology observed that there were isolated cases where external examiner delays in marking the thesis and submitting the marks, but on investigation, they had good reasons such as being busy due to a lot of theses from other universities or were out of the country on official duties.

The author wanted to know whether or not the respondents were aware of any policies governing research activities in the University. A total of 87% responded Yes; they were aware of the existence of such policies while 13% responded No, i.e. they were not aware of any of such policies. On further, inquiry into the elements of such research policies, majority of the students (56.3%) responded on the negative compared to 43.1% who responded on the positive. Table 1 summarizes the respondents' perception on the elements of research policy.

Table 1. Respondents knowledge on element of research policy

Element of policy	Yes(%)	No(%)	Total(%)
Has defined protocol of coordinating research activities	179(74.6%)	61(25.4%)	240(100%)
Has a policy for proper maintenance of up to date electronic and print databases of research activities	179(74.6%)	61(25.4%)	240(100%)
There are research collaborations with private sector and other public institutions	110(45.8%)	130(54.2%)	240(100%)
Post graduate students must be assigned supervisors	209(87.1%)	31(12.9%)	240(100%)
The government gives research funds to universities	162(67.5%)	78(32.5%)	240(100%)
There is an annual research fund/budget by the university	94(39.2%)	146(60.8%)	240(100%)
There are clear efforts to attract external research support	105(43.8%)	135(56.3%)	240(100%)
Has proper guidelines for research and consultancy	52(21.7%)	188(78.3%)	240(100%)
Has defined avenues for seeking research funding by postgraduates	46(19.2%)	194(80.8%)	240(100%)

Has a clear policy to fund competitive researches.	70(29.2%)	170(70.8%)	240(100%)
has defined ways of disseminating research findings	44(18.3%)	196(81.7%)	240(100%)
It guarantees for intellectual property rights	108(45.0%)	132(55.0%)	240(100%)
There are publication awards for deserving members of the university	6(2.5%)	234(97.5%)	240(100%)
Total	1364(43.7%)	1756(56.3%)	3120(100%)

From the results, the existing research policies are unclear and the students are not aware of most of its elements. Similarly, from Table 1 the policy fails to adequately address the following three issues:

Firstly, it has no defined avenues for funding research activities by postgraduates. From Table 1, 80.8% of the respondents believe that the University has no well-defined avenues of funding postgraduates' research activities. There seemed to be an agreement with the observations made by the administrator in the office of DVC research and extension. On interview, it was clear that competitive projects by students might end up unrecognized, as the students were not directly eligible to apply for research fund. The students must go through their supervisors and in the process, they are considered as co-researchers. According to Dr Kindiki, the HOD Management and Policy Studies, students do not benefit from direct funding from the university because there is no binding agreement between students and the university.

The student might be funded but they disappear in the way because there is no agreement between them and the university and unlike the lecturers which have a binding agreement with the university. If such a thing happens, the university loses, as the student will not return back to the university. Funding is an investment and university expects returns. For lecturers it is a form of staff development and the knowledge gained is ploughed back to the university.

Secondly, the policy has no proper guidelines for research and consultancy. According to the results shown in Table 1, only 21.7% of the respondents believe that the university policy contains proper guidelines for research and consultancy whereas 78.3% believe the guidelines are improper. Although the policy clearly outlines the guidelines for research and consultancy, it appears from the responses that these guidelines are not in practice and are only in paper. The postgraduates' responses were in agreement with those of HODs who pointed out that research and consultancy services in the university were not fully supportive for improved research output in general.

Thirdly, there are no clear policies of funding and publishing competitive researches by postgraduate students. A total of 29.2% of the respondents acknowledge that the policy is clear in funding competitive researches while 170 respondents (70.8%) say the policy is unclear. Of great concern is the publication fund where only six respondents (2.5%) acknowledged that publication awards are given to deserving members of the university while 97.5% believe that the publication awards are not available. Because of this quality work from the student may end up unrecognized if the supervisor does not assist the

student to publish the findings of the study. When the postgraduates were asked what they did in the course of the studies, the responses are as in Table 2.

Table 2. Respondents' activities at the course of their programme

Variable	Yes(%)	No(%)	Total(%)
I presented a research paper in a conference	0(0.0%)	240 (100%)	240(100%)
I assisted my supervisor to conduct research	80(33.3%)	160(66.7%)	240(100%)
I receive research fund from my dept/school	2 (0.8%)	238 (99.2%)	240(100%)
I receive publication fund for my research	0 (0.0%)	240 (100%)	240(100%)
I attended a research seminar in the university	125(52.1%)	115(47.9%)	240(100%)
I was sponsored for a research seminar outside the university	0(0%)	240 (100%)	240(100%)
I was barred from defense of my proposal/thesis due to fee arrears	48(20%)	192(80%)	240(100%)
My supervisor(s) encouraged me to do research	130(54.2%)	110(45.8%)	240(100%)
My department compelled me to buy a laptop	0(0.0%)	240(100%)	240(100%)
I discussed my research development with my colleagues	142(59.2%)	98(40.8%)	240(100%)
Is there an emphasis on research work by your school/department	89(37.1%)	151(62.9%)	240(100%)
Total	943(35.7%)	1697(64.3%)	2640(100%)

In Table 2, 0.0% of the respondents presented a paper in a conference. Therefore, no single student was able to present a paper either individually or jointly in collaboration with other students or academicians. Only two (0.8%) of the respondents received research funds from their schools or departments while none (0.0%) of the respondents were compelled to buy a laptop by their departments. To qualify for research fund from the university one must submit the research proposal together with the logical framework analysis (LFA). This is an uphill task for graduate students to manage. Therefore, the low quality of research output by postgraduates is as result of the existing institutional policies, which do not adequately cater for postgraduates' research needs.

Financial Regulations

The University has strict financial restrictions that prevent postgraduates from defending their thesis or proposals if they have not cleared the tuition fees. The thesis cannot be submitted for marking before the student clears all the fees balances. When postgraduates were asked to respond on what applied to them during their programme as in Table 2, 20% responded that they were barred from defense of their proposal/thesis due to fees arrears. Although fee payment is important for successful and meaningful research, this policy on fees has accounted for the low research output among postgraduate students. On interviewing postgraduate alumnae 50% mentioned that their supervisors would check their fee payment status before they willingly accept to go through their work.

My supervisor went to the accounts office, inquired on my fee balance. He later called me to inform me he was not willing to waste his time when he will not claim any payment before my fees are

cleared. I explained to him that I was in the process of paying within two days. He demanded I gave him a copy of receipt/bank slip to facilitate the claim.

Thus, the low research output is partly due to fee restrictions. It was further observed during the interviews that this policy on fee restrictions also causes low motivation and negative attitude towards research for those students with problems in fee payment.

Research Funding

According to Jones *et al.* (1982), the amount of direct expenditures on material support can be used as an indicator of research performance. Moi University gets its research fund from three main sources.

- Savings from university revenues. This include a percentage of tuition fee, capitation and other funds less recurrent expenditure, conference registration fees, the research component of the Moi University endowment fund, proceeds from commercialized intellectual property and proceeds from consultancy. This is known as the University Research Fund (URF).
- Funds from government institutions such as the commission of higher education (CHE), the Higher Education Loans board (HELB) and the National Council for Science and Technology (NCST).
- Outside support, especially from foreign donors, private organization, other research firms and development partners.

The URF is divided to all the schools equally. In the academic year 2010/2011, the URF was allocated to schools/ departments as in the Table 3.

Table 3. Research fund allocation

School/Department	Amount (Ksh)
Education	450,000
Agriculture	500,000
Arts and Social	500,000
Science	500,000
Business and Economics	500,000
Dentistry	500,000
Environmental	500,000
Human Resource	500,000
Information Science	500,000
Medicine	500,000
Natural resource	500,000
Management	500,000
Public Health	500,000
Science	500,000
Administration	500,000
Dean of students	250,000
Totals	6,700,000

Source: Moi University, Office of DVC; R & E

From Table 3, a total of 6.7 million of URF was allocated to various schools and other organs of Moi University on almost equal basis in the academic year 2010/2011. It is also observed from the table that school of education was the only school that received Ksh 450,000. All the other schools received Ksh 500,000. Through interview with the administrator in the office of DVC R&E, it emerged that the reason why the school of education received a lesser share was that very few members applied for the fund possibly due to their inability to produce a good number of fundable projects.

It was difficult to ascertain the total amount of research fund the school of education has spent over the years. The records available showed the total amount of research fund utilized by the university from 2005 to 2011 amounted to Ksh 275,699,689. It seems therefore that the lack of research funding is not the cause of low research output in the school of education. It is important to note that postgraduate students are not eligible to directly source for research fund from the university. The current policy requires the supervisors to apply and include them as co-researchers. This policy does not encourage active competition by the students in research. According to Table 3 above, only two (0.8%) respondents received research fund from the university.

Although a slightly higher proportion of postgraduates (52.1%) attended research seminars in the University, most of them sponsored themselves. Regarding publication fund, the University offers the publication award to a staff member who will have published the largest number of publications in reputable international journals, and or books in their areas of specialization in the preceding year. Although it is appreciated that postgraduate students may not have the capacity to write and publish quality-learned papers, efforts should be done to encourage co-authorship and teamwork between the students and lecturers. This will help to build a stronger foundation of reputable team of hard working researchers.

The University supports annual international conferences. The respective schools who wish to participate prepare their budget estimates and forward it to GSREC. However, it appeared that this is a policy without reinforcement as there are no punishments for individuals and schools that do not participate. This is, therefore, a weak policy, which has not in any way increase research output. Lertpputarak (2008) observes that a faculty that has a research journal, publication funding and conference funding, the environment stimulates the members to be interested in undertaking more research and subsequently publishing their outcomes. On interview with postgraduate alumnae, it appeared that even when provided with research fund postgraduates might not be in position to produce more research works. It shows that there may be other factors that strongly influence students against doing research and that availability of research fund alone may not positively influence research output.

Research Environment within the University

Lertpputarak (2008) indicates that the atmospheres of a department or college are important in stimulating high research productivity. Earlier work by Braxton and Toombs (1982) has shown that there is a positive correlation between reinforced climate and research productivity.

Table 4. Postgraduate's views on university's research environment

Variable	SA(%)	A(%)	D(%)	SD(%)	DK(%)	Total(%)
Positive reinforced environment motivates people to do research	227(94.6)	13(5.4)	0(0.0)	0(0.0)	0(0.0)	240(100)
Lecturers who have good resources motivate me to do research	149(62.1)	91(37.9)	0(0.0)	0(0.0)	0(0.0)	240(100)
There are structures in my department/school which supports postgraduates in their research activities	10(4.2)	92(38.3)	88(36.7)	36(15.)	14(5.8)	240(100)
I admire to work with lecturers with research grants.	181(75.4)	42(17.5)	17(7.1)	0(0.0)	0(0.0)	240(100)
My supervisors are too busy to be consulted	182(75.8)	25(10.4)	33(13.8)	0(0.0)	0(0.0)	240(100)
Social science projects unlike hard science projects attract less funding	69(28.8)	118(49.2)	20(8.3)	10(4.2)	23(9.6)	240(100)
The process of securing research fund is difficult	193(80.4)	7(2.9)	0(0.0)	30(12.5)	10(4.2)	240(100)
Total	1011(60.2)	388(23.1)	158(9.4)	76(4.5)	47(2.8)	1680(100)

From Table 4, all the respondents (100%) pointed out that a positive reinforced environment motivates individuals to do research. When asked to respond whether the structures in their school/department are effective in supporting research endeavors in Likert differential scale, 4.2% strongly agreed, 38.3% agreed, 36.7% disagreed, 15.0% strongly disagreed and 5.8% did not know. It can therefore be inferred that 51.7% of the respondents believe that the environment is not motivating research activities.

Lecturers being role models of postgraduate students should be good researchers since students admire lectures who themselves are good researchers. In Table 4, 100% of the respondents pointed out that lecturer who are good researchers motivate them while 82.9% of the respondents admired to work with lecturers who are able to develop proposals for research grants. However, in the current situation it is difficult to find such type of lecturers since the lecturers were too busy in teaching or administrative activities for postgraduates to consult them. As shown in Table 4, a total of 75.8% of the respondents strongly agreed that their supervisors were too busy to be consulted while 10.4% agreed and another 86.2% were dissatisfied by the environment in their departments as far as consulting their lecturers is concerned.

On interview with Dr Changach, the HOD Educational Foundation, it emerged that the university recognizes research as an important activity for knowledge creation. It was also clear from the university policy document, mission and vision statements that the university has a stronger research emphasis. However, in the present situation, the research environment is not motivating enough even though the university has tried to build a proper research environment. There was a general agreement with the HOD's

view that the research environment has been reinforced for student's advantage as can be seen from the comments of Dr Kindiki, the HOD EMPS

Although we have a shortage of lecturers teaching research, for the last two years we have been conducting workshops and seminars for postgraduates. Research experts are invited to guide postgraduates especially on their expectations so that as they go out they can add value.

The postgraduate research environment in this university is not so vibrant nor competitive since there is no classification for M.Phil degrees. The alumnae pointed out that the undergraduate programmes are doing well because of degree classification. One postgraduate alumnae had this to say.

No one will want to receive inferior classifications like a pass. Undergraduate students work hard to get first class as it earns you respect. It is not the same for postgraduate degrees. Quality in research is obtained through hard work and is more of a personal activity; therefore, a researcher must donate their own time for research work.

It also emerged that the students themselves are not aggressive in doing quality work because the environment is not supportive. The lecturers do encourage their students to develop positive attitudes towards research; however, this has not improved their research outputs. According to Table 4, 54.2% respondents were encouraged by their supervisors to do research. However, the time and place the supervisors were available for consultation tends to be obstacle to a positive research environment. In Table 5, the frequency of meeting supervisors varied with majority meeting their supervisors at least twice a semester.

Table 5. Number of times students met their supervisors for consultations

Number of times	Frequency	Percent	Cumulative Percent
Once a semester	24	10.0	10.0
Twice a semester	7	2.9	12.9
More than twice of semester	80	33.3	46.3
Once a month	74	30.8	77.1
Twice a month	30	12.5	89.6
Can't recall	25	10.4	100.0
Total	240	100.0	

Because of high teaching load and other administrative and domestic obligations, most of the supervisors were mainly available during evenings for consultation by postgraduates. Postgraduate alumnae complained that the time supervisors were available for consultation was hindering them from exploiting and tapping the knowledge from them, as most of them were available in the evening. Some postgraduate alumnae mentioned that their spouses were uncomfortable with the evening meetings. Thus, the time the supervisor are available for consultation in most cases limits students from getting them.

Alumnae respondents from all the departments mentioned the type of leadership in their school/departments was not strict as lecturers/supervisors are not adequately monitored and therefore they do not supervise their students well. The role of leadership in research cannot be over estimated. Kerr (1997), for example, concludes that leadership plays an important role in research universities because leadership heightens members' morale and self-esteem, it affords opportunities to focus on and develop commitment for the task at hand and it allows subordinates to have information that increases their abilities to contribute. The alumnae respondents interviewed were more satisfied with administrators who they perceive to be satisfied with them and their work, who attempted to reward them and who supported them to do more research. All the Heads of Departments were praised by former students as being supportive and understanding to students' needs.

One other factor contributing to low research output of postgraduates in Moi University is that the academic members themselves are not hardworking researchers. Very few of them are prolific subscribers to both local and international journals (Migosi *et al.*, 2010), and as such, students have no frame of reference to emulate. Lertpputarak (2008) has reported that faculty members who are productive researchers challenge students more effectively. Therefore, the kind of research environment in the school of education does not encourage postgraduates to do more research and the observed low research output can be explained by the kind of research environment in the school.

Supervision

Postgraduates are given two supervisors to guide them right from proposal development to the final stage of thesis writing. Postgraduates are supposed to meet their supervisors and refine the study until the time of defense. From Table 6, all of the 240(100%) respondents were assigned supervisors at the end of first semester of first year.

Table 6. Time supervisors were officially assigned

Time	Frequency	Percent	Cumulative Percent
At the beginning of 1 st year	0	0.0	0.0
At the end of first semester	240	100.0	100.0
At the beginning of 2 nd semester	0	0.0	0.0
At the of 2 nd semester	0	0.0	0.0
At the beginning of 2 nd year	0	0.0	0.0
Total	240	100.0	100.0

Towards the end of the first year proposal defense is normally done upon which those who are successful are suppose to make corrections based on the minutes of the defense before going to the field to collect data. Writing of thesis begins with analysis of data and presentation of copies to the supervisors for necessary comments and corrections. Upon satisfaction of the supervisors, six copies are submitted for marking. The author also wanted to find out the views of the students on the appropriateness of time in assigning supervisors by the school.

A total of 77.9% of the respondents felt that the timing was inappropriate while 22.1% were satisfied with the timing. The findings showed that a postgraduate has four months

from the time they are assigned supervisors to the time they are called to defend their proposals. Besides research, postgraduates have other coursework demands such as writing term papers and preparing for exams not to mention other personal and occupations demands that compete for time with research. The school-based students are particularly disadvantaged because most of them are not within the university for most of the time since they were assigned supervisors. One postgraduate alumnae who had this to say:

I teach in Wajir. I need to travel for over 800km to this place (Eldoret) to see my supervisors. I would wish we were given the supervisors immediately we were enrolled so that some of us can maximize the time we are in session. The quality of my work was so poor because during proposal defense, I met my supervisor only once and he had no time to go through all the work. He only looked at my topic and objectives. That was all.

Since M.Phil students do not have major prior experience/skills in research, they need more mentoring and frequent advisory services from their supervisors if they are to produce quality work. The university management wanted to motivate the supervisors by paying them supervision fees from the student payment. Currently, a supervisor goes home with Ksh 36500 for successful supervision. This policy has not yielded much fruit since students still complain of inadequate supervision. Therefore, the low research output can be partly explained by inadequate supervision. In Table 6, majority of the students met their supervisors more than twice a semester (33.3%) followed by those who met once a month (30.8%). However, Dr Kindiki, the HOD Management and Policy Studies pointed out that the supervisors were too busy in other teaching and administrative duties and students should consult them to find an appropriate timing.

Our lecturers have a lot of tasks but students are not serious in getting them. The students fix appointments at their own convenience but not at the convenience of lecturers. When I am free, my student is not free. There is inconsistency in fixing appointments especially by school based students. I attend more to regular students than school based students and that is why school based students generally take longer to complete their research.

Qualification of Post Graduate Supervisors

Lertputarak (2008) observes that supervisors offer motivation by being a frame of reference to the subordinates. It is also observed that students are motivated by lecturers who are themselves good researchers. It is a common saying that experience increases with age and frequency of doing an activity. Therefore, it is expected that students supervised by professors should perform better than those supervised by non-professor lecturers.

Table 7. Qualification of postgraduate supervisors

Title	Qualification of 1 st supervisor	Qualification of 2 nd supervisor	Total
Professors	3 (1.3%)	0(0%)	3 (1.3%)
Associate professor	41(17.1%)	0(0%)	41(17.1%)
Doctorate	162(67.5%)	83(34.6%)	245(51.0%)
Masters	34(14.2%)	157(65.4%)	191(39.8%)
Total	240(100%)	240(100%)	480(100%)

In Table 7, the number of students supervised by full professors as 1st supervisors were 3(1.3%) while those supervised by associate professors as their 1st supervisors were 41(17.1%); 162 students (67.5%) had their 1st supervisors as PhD holders and 34 students (14.2%) had their first supervisor having masters as their highest degree. There were no professors or associate professors as the second supervisors. A total of 83 students (34.6%) had their second supervisors having PhD.

Most of the second supervisors were lectures with masters' degrees (65.4%). On average, PhD supervisors were more (51%) followed by supervisors with masters (39.8%). Full Professor Supervisors were only (1.3%) in total. In all the cases, the research output of postgraduates was low suggesting that the academic qualification of the supervisor does not affect student's research performance.

Research Culture

Bland and Ruffin (1992) observe that a distinctive research culture which comprises teamwork in research, collaboration and collegial networking has a significant positive impact on research productivity. These views are similar to those of Lertputarak (2008) who avers that staff with some connections with external organizations that are willing to join research projects had a significant higher research output. The study sought the knowledge of postgraduate on the existence of school's research culture. From the findings, 57% of the respondents were not aware of the schools'/departmental research culture. A total 38% said the school/department had a research culture while 5% said the school/department do not have a research culture. When asked to state what the research culture entailed, the responses were as presented in Table 8 below.

Table 8. Components of research culture

Description	Frequency	Percent	Cumulative percent
Team work in research	21	8.8	8.8
Research topics on pertinent issues are made aware to all members.	84	35.0	43.8
N/A	135	56.3	100.0
Total	240	100.0	

From the results in table 8, a total of 8.8% mentioned that team work in research existed while 29.2% mentioned that research topics/problems on pertinent and fundable areas where made aware to all members. This is an important observation since it enables those

with interest to participate to send their proposals as well as ensuring competitive vetting of projects that inventively leads to quality work.

All the HODs pointed out that there was no culture but simply policy guiding research activities. These policies include collaboration with other departments/schools where supervisor's from other schools may be appointed to supervise students from the school of education or are invited during defenses. The School of Education, therefore, has no defined research culture and the observed low research productivity arises from lack of institutions research culture.

CONCLUSIONS

Universities all over the world are engaged in significant reconceptualization of their public roles in order to adequately address the social and economic demands of their population. From the cited literature, the core functions of university education are research, teaching and service to the community. The available literature shows that from the three, research is deemed twice as important as teaching and five times as important as service to the community.

It should be noted that research output is not only important avenue to successful conferment of M.Phil degrees to students, it is also important for enhancing institutional reputation and economic status. On institutional factors, it is suggested that the research policy should be redesigned to recognize postgraduate students' efforts in research development by allowing for direct finding to the students.

Pertaining fee payment restrictions, it was observed that those students who had not cleared their fee payment were prevented from defending their thesis. It is suggested that students are compelled to pay at least 75% of their total fees before admission and the rest should be paid before the end of the first year. In this way, postgraduates will work harder to justify the payments and therefore improve their research output. Presently, students who are not serious will want to pay in small installments as they delay in their studies. It is further suggested that to avoid students completing their course work and disappearing for many years, at the expiry of the recommended period for completion a penalty fee calculated on the basis of prevailing inflation factors and time be imposed such that instead of the students paying the initial amount specified in the fees schedule irrespective of the duration taken to graduate will pay more depending on the number of academic years they take to complete the programme.

RECOMMENDATIONS

The paper recommends that the universities in Kenya review their research policies to adequately gather for postgraduates' needs. Postgraduates form the highest constituency of public universities and it is time the research output is seriously interrogated.

From the observations on research funding, it is suggested that the universities provide a more balanced research funding between lecturers and postgraduate students. Currently, the funding opportunities are skewed in favor of academicians and postgraduates are not directly eligible to apply for funds from the university. It is recommended that a certain

fraction of URF should be set aside for postgraduates with competitive projects of national importance. A panel may be constituted comprising faculty members to vet students' projects to be funded. Students should also be assisted to source for international research funding.

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BIO-DATA

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