Linking research with the other missions of the University

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Introduction

It is generally agreed that the mission of a university is threefold: teaching, research and service to society (cf. Figure 1). Despite the resources and efforts deployed by African countries and their partners, attainment of these missions by the university as an institution seems somewhat mixed. There are countless meetings, colloquia, and writings on the difficulties of universities in Africa. For example, Majewa Mbaya (2001) writes : "The great difficulty of the African university is in its lack of adaptation to society, which has brought about the following serious consequences: a) training provided at the university no longer corresponds to society's demands, hence the increase in unemployment among its graduates; b) research conducted within the African university contributes nothing to its environment, leaving the problems of Africa's industrial, economic and social development untouched." He could have added a third conclusion: c) the results of research are not sufficiently used to evolve teaching and render the curriculum more culturally pertinent.

The objective of this concept note is not to discuss all the problems facing universities in Africa. It will address the role that research can play to help the university fulfil its two other missions – teaching and service to society. The goal is not to provide solutions here to these complex problems but to indicate paths for reflection and action.

Figure 1. The three missions of the university in society and the interactivity between research and the other two missions
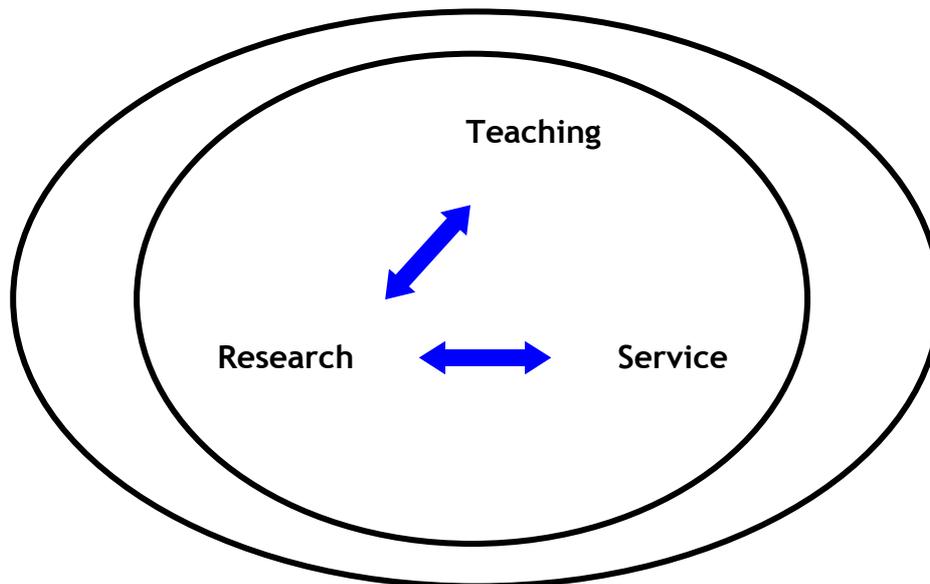
Research and teaching in African universities

Research is one of the essential missions of universities. It should contribute to improving the quality of teaching by increasing the body of contextualized knowledge and expertise available and by infusing teaching with new tools and methods for producing and sharing knowledge.

Research enriches and deepens teaching, equips students with rigorous methods for problem solving, and encourages innovation. It involves students in the process of constructing new knowledge, side-by-side with their peers and professors. The quality of teaching of graduate students depends in part on conditions for research in university departments. Linking research closely with teaching is also a strategy for making training and scientific expertise in Africa both specific and competitive.

Unfortunately, reality shows us that research contributes little to this mission of teaching. The amount of time teachers devote to research is generally not significant, and consequently research has little influence on the content of courses that are mostly founded on knowledge amassed and validated long ago. Very few students and young researchers are conscious of the fact that what they learn today is the result of enormous effort accumulated over the long term by researchers across the whole world, particularly those in the western world (Europe and North America). So we can say that teaching in African universities is a consumer of the findings of research undertaken elsewhere. In many universities, taking stock of research is never undertaken; knowledge produced is dispersed within units and departments that, for the most part, work in isolation, without operational links. Systematic collection of information and its organization and storage are far from concerns of teacher-researchers, heads of training and research units, and university administration. These unfavourable conditions do not allow for the results of local research to be taken into account in courses taught.

This observation brings us to ask the following questions. Does the disconnect between teaching and research contribute to the disconnect between teaching and the real environment in Africa? Would systematic integration of the findings of local research in the content of teaching not be one of the means for the university to respond more adequately to society and the skills it needs?

Reform of doctoral programs

The approach to doctoral studies is being called into question, especially as universities in French-speaking West and Central African countries adopt the bachelor-master-PhD system, in line with the practice of their Anglophone counterparts. Besides the traditional approach that places a student and a professor face-to-face in one on one relationships, degree candidates are increasingly grouped with several professors, for example in a cohort, a laboratory, or a "doctoral school," in an environment where group and peer learning is promoted.

In the years to come, this approach involving groups around transdisciplinary research themes will occupy a central place in university research and will constitute the interfaces between teaching and research. Prolonged support for such research programs can facilitate the production of a critical mass of findings in domains of social and economic interest. Consolidating doctoral schools could enable the university to develop a master plan for research. Further, at national level, all activities of doctoral schools in the various universities could constitute part of the national research plan for economic and social development. This would represent a significant advance and even contribute to regional research plans.

It would be of interest to encourage universities in Africa to work in regional and international networks to promote the transmission and broad sharing of knowledge, experiences and good practice. In this way, new and strengthened communities of practice would become robust and recognized pillars of the scientific community. This would intensify the development of critical masses of knowledge and human resources in key areas. What could be added to existing mechanisms of cooperation among universities to respond to these needs? How could scientific cooperation support this movement? Is this not an opportunity to diversify ways of funding research, go beyond "project" support to provide institutional support, support to research networks operating at sub-regional or continental levels, and set up partnerships with organizations for regional integration (WAEMU, ECOWAS, ADB, ECA, NEPAD, AU…). Is there not an opportunity to increase collaboration and synergies among partners? Would putting resources together not be a means to support wider scale and longer term research projects?

Can the quality and dynamism of doctoral schools and other research groups be ensured if the university does not have a recruitment plan to attract and retain the most competent young researchers? What should be done to reverse the current tendency towards their marginalization? The few young researchers recruited (sometimes according to criteria that are not transparent) represent cheap labour, subject to exploitation and marginalization on the part of seniors and the administration. Many of these young people work in precarious situations as monitors, short term replacement staff and tutors, with no contract, with outdated research tools and without a mentor. In this way the young African researcher soon feels neglected and spends most of his or her time searching for the way out.

However, young researchers could be supported and retained in the following ways:

- Practical training in research methodology and scholarly writing;
- Multi-year scholarships or salary supplements for the most deserving young researchers;
- Facilitated access to documentation, databanks, and publications, and participation in workshops, seminars, and conferences;
- Time in specialized laboratories and research groups in emerging countries, African countries or developed countries.

Scholarly reviews and journals are indeed an important barometer of scientific activity in a country and its universities. By their number and regularity and the intrinsic quality of the scholarly contributions (Niang, 2005), they signal the level of dynamism of academic excellence. But few universities provide a reasonable budget for this essential activity. The reform of doctoral studies could constitute an opportunity to rethink and encourage the dissemination of research findings, integrating of course and accounting for what the internet has to offer in this regard. Here again, federating efforts and putting resources in common via regional and continental networks might be a way to save African scholarly reviews from current "high infant mortality" rates (Niang, 2005: 86).

Research and service to society

The international commission on education for the 21st century underlines that developing country universities have an obligation to carry out research contributing to resolving these countries' most serious problems. Winter (2002: 263) suggests that researchers desiring support from public authorities and economic actors demonstrate the relation of their work to people's most pressing needs and to the questions that authorities and economic operators are asking themselves.

Despite these recommendations, an appreciable number of university research projects are driven by the desire for personal promotion through publications in journals edited abroad. Service to society is not yet part of the criteria for evaluation and promotion of teachers and researchers. Development issues are similar overall, yet contextualizing them and refining methods of analysis are absolutely necessary for endogenous development. At the same time, in many cases, local data are non existent. So a great number of proposals for African realities are extrapolations of findings of studies carried out in other historical, geographic, economic and human milieus. Foreign and African consultants draw frequent inspiration from them. This is the case, for instance, in the debates around climate change.

However, African research should inform the elaboration, implementation and evaluation of policy. In this way, reliable data and scientific evidence – not just ideological assumptions and political considerations – shape national priorities as articulated in national strategies and action plans, poverty reduction strategy papers (PRSP), and development programmes and projects.

In recent years, efforts have been made to associate universities with elaborating development policies, most often on an individual basis by soliciting consultants. But how can the university (or one of its units) be sought out if it has no research strategy or action plan, elaborated in harmony with the national development plan? But who could elaborate such a plan, execute it, and evaluate it, because few universities have a directorate of research with a reasonable budget and adequate personnel qualified for planning and research program and

project management? However, the university possesses skills in practically all areas of knowledge. How can university competencies be de-compartmentalized and realigned to facilitate the development of research?

Apart from public authorities and local government, other potential clients of university research include businesses, NGOs, and civil society more broadly. These stakeholders have very general knowledge of the university and of the research being conducted there. University research could help them better understand their economic and political environment, diagnose their problems, and refine their visions for the future. But does university research know these clients adequately, their motivations and needs? Is it sufficiently equipped to do so? Is university teaching oriented towards problem solving? Are university structures and operations adapted to propose useful responses to these actors, who often operate under pressure? University research work oblivious to time constraints is incapable of delivering a commissioned product with strict respect for due dates.

Finally, do universities inspire the necessary confidence in their mode of research governance and management to attract national public funds or those of partner countries? What has to be changed so the university can better fulfil its mission of research, which is essential to fulfilling it two other missions?

The development university

Imagine a development university serving the needs of communities in which it is embedded. In such universities, research is oriented toward the resolution of problems raised by different members of those communities. So the question of using research findings is no longer in doubt because supply is guided by demand. Research findings are integrated into teaching content at the undergraduate and graduate levels as well as in ongoing adult education. Teaching and learning programs are set up in direct relation to local, national, and regional needs and course content is infused with research findings. The university is appropriated by communities because they see its value in extracting, transforming and reintegrating knowledge into living.

In such an environment, how should the issues of utilising income generated by research be handled? If research findings contribute to adding value to local resources, would it not be legitimate for part of the revenues generated to return to the university that helped make the process possible? What mechanisms would need to be place? And how can liberty of ideas, criticism and expression be preserved?

It is important to keep in mind that Africa is in mutation. It is changing with the influence of internal factors – urbanisation, conflict – and external ones – climate change, globalisation, technology. The demand for research is changing too, and the university must constantly adjust its supply. Thus, the research system must have available a surveillance mechanism enabling it to anticipate issues and begin working on them well ahead of the curve.

Conclusion

The university at the service of development presupposes dynamic research, closely linked to teaching and at the service of society. The reform underway in the form of institutionalising the bachelor-master-PhD system seems to be an opportunity for in-depth review of the research system. This review and evolution of university research should take into account:

- Abandoning the current system of dispersed projects conducted in intellectual silos in favour of research conducted within interdisciplinary groups or schools;
- Consolidation of doctoral school and other research unit research agendas and activities in a wider strategic plan for research;
- Elaboration, monitoring and evaluation of this plan by teams of professionals trained and experienced in planning, management, budgeting, evaluation, partnership development, and resource mobilization;
- Setting up networks of doctoral schools and research managers at regional, continental and international levels;
- Support for the emergence of dynamic communities of practice;
- Recruitment and retention by the university of deserving young researchers;
- Review of evaluation criteria – of professors and the university itself – to include performance in relation to society's needs;
- Policy and financed action plan for long term scholarly publication;
- Integration of information and communication technologies in teaching, research, and publication;
- University campuses decentralized from capital cities;
- Cooperation at the regional level among universities and other institutions;
- Federation of resources and harmonization of international cooperation to support these efforts.

Informed investments in research can help the university meet its mission of teaching by involving students and professors in the construction of knowledge and infusing the curriculum with updated content that reflects the realities, needs and aspirations of people. Research can also be developed in ways that help the university re-link with society, render it useful to the production and use of knowledge and re-establish the role of the university in national innovation systems.

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