

KNOWLEDGE PRODUCTION IN CONTEMPORARY AFRICAN SOCIETY: LESSONS FOR UNIVERSITIES

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ABSTRACT

The paper examines knowledge production models and their relevant for universities in contemporary African society. In the process it provides a theoretical benchmark for discussing and understanding the challenges associated with knowledge production in contemporary universities. It sets off with definitions and characteristics of Modes 1 and 2 knowledge production models. This is followed by an analysis of how research is approached and acknowledged in contemporary universities. The interaction model of knowledge utilization is then used as a benchmark in prescribing a research agenda for contemporary universities. Such an agenda should balance the traditional interest of universities (production of scientific knowledge), on one hand, and the contemporary interest of societies (application of knowledge), on the other. It is recommended, among others, that African universities enhance their participation in commissioned or externally funded research to complement science-push research. At the same time, universities are cautioned against excessive fascination in academic capitalism which has the tendency to divert the interests of academics from their traditional roles of teaching and knowledge-driven research towards conducting more applied/commissioned research for industries and other external sources.

KEY DESCRIPTORS: Knowledge Production, Mode 1 Model, Mode 2 Model, Interaction Model, Contemporary Society.

INTRODUCTION

Contemporary society, it is no secret, has become more overt and knowledge-conscious, thus paving the way for a new mode of knowledge production. Gibbons, Limoges, Nowotny, Schwartzman, Scott and Trow (1994) describe the development of the organization of research in contemporary society in terms of a switch in modes of knowledge production. Two models of knowledge production have been identified: Mode 1 and Mode 2. Whereas research under Mode 1 is knowledge-driven or science-push in nature; research under Mode 2 is anchored on its application to address the needs or concerns of society. That is to say, Mode 2 knowledge production is demand-pull in nature. The contemporary modes-switch in

knowledge production has implications for the pursuit of research by universities and other research houses. In this paper, the interaction model of knowledge utilization is engaged to debate the issue of knowledge production, with particular reference to Mode 1 and Mode 2 types (i.e. knowledge-driven or problem-solving) with the view to determining best practices that should form the hub of research agenda in contemporary universities.

The paper sets off with definitions and characteristics of Modes 1 and 2 knowledge production models. This is followed by analysis of how research is approached and acknowledged in contemporary universities. The interaction model of knowledge utilization is then used as benchmark in prescribing a research agenda for the universities. Such an agenda should balance the traditional interest of universities (production of scientific knowledge) and the contemporary interest of societies (application of knowledge). Both modes of production have wide applicability although Mode 1 model has guided, largely, research in African universities. However, the demands of contemporary African society are putting new challenges on universities and rendering the existing bias inadequate.

THREE MODES, THREE MODELS OF KNOWLEDGE PRODUCTION

Mode 1 Model

The Mode 1 model of knowledge production represents the traditional core research activities of universities and other research institutions. Research under Mode 1 is knowledge-driven or science-push in nature. The legitimacy of such knowledge is established largely through peer-review systems, with emphasis on the scientific validity and reliability of research rather than its application.

Mode 2 Model

The Mode 2 model of knowledge production on the other hand is considered as constitutively engaged in applications. It is guided by the identification and solution of practical problems in the day-to-day life of its practitioners and organizations, rather than being focused solely on the academic interests of science. Under Mode 2, the acceptance of knowledge is premised on its application in addressing the needs or concerns of society. It is characterized by the following principles: (1) "knowledge is produced in the context of application," (2) "transdisciplinarity," (3) "heterogeneity and organizational diversity," (4) "social accountability and reflexivity," and (5) "quality control," (Gibbons et al., 1994).

Mode 1 vs Mode 2

The system of reference for knowledge production under Mode 2 is the network of interactions and communications across boundaries and interfaces.

Transdisciplinarity, therefore, replaces Mode 1 disciplinary-based research. From this perspective, interactions between disciplines become dominant. Mode 2 advocates a strong link between researchers and practitioners in the production and application of knowledge. Such interaction should be emphasised in the various phases of knowledge production and application. This is critical particularly in a knowledge-based society characterized by increased demand for transfer and utilization of research knowledge (Dickinson, 2004).

It must be emphasised, however, that Mode 2 knowledge production does not replace, but rather supplements knowledge production under Mode 1 (Gibbons et al., 1994). Mode 2 supplements Mode 1 knowledge production by bridging the gap between science and society. This relationship is manifested in a number of ways. First, under the Mode 2 model, science is still acknowledged as having an important role in addressing problems in contemporary society. Second, the Mode 2 model influences how basic research in universities and other scientific communities is performed and organized to make research more functional in the society. Third, the Mode 2 model enhances relationships between universities, the scientific community and general society. This explicates the triple helix paradigm that explores the relationship among universities, government and the industries.

The Interaction Model

The Interaction Model suggests that knowledge utilization depends on a variety of interactions occurring between researchers and users, rather than on a linear sequence based on the needs of researchers or the needs of users (Landry, 2001). Proponents of this model fall into two schools of thought. The first includes supporters of communication-related theories, which emphasize the so-called “two communities” metaphor. They assume that the differences between the culture of science and the culture of practitioners lead to a lack of inter-group communication and, consequently, to low levels of knowledge utilization (Oh & Rich, 1996). The second perspective suggests that the more sustained the interaction between researchers and users, the more likely utilization will occur.

The interaction model suggests that research utilization is influenced by four factors: (1) types of research and scientific discipline, (2) needs and organizational interests of users, (3) dissemination, and (4) linkage mechanisms (Landry, 2001). Similarly, according to the National Centre for the Dissemination of Disability Research (1996) this model provides for four dimensions of knowledge utilization: dissemination source, content, medium, and the intended user. In short, the model advocates for an interaction between researchers and decision-makers during all phases of research, from production to utilization. Viewing and managing knowledge in such a “holistic” fashion, therefore, is likely to lead to a greater use of knowledge in decision-making. Within the interactive framework, communities of researchers and practitioners can

be brought together. This is attainable when researchers spend more time with practitioners in the world of practice and use those experiences to influence the formulation of research problems and the interpretation of research findings. This is important because passive processes of research production and transfer are ineffective, and that interactive engagement may be most effective, regardless of the audience (Lavis et al., 2003).

This interaction can be deepened by ensuring strong linkages among researchers, research funders and potential research users. Lomas et al. (2003) call for an interpretative "listening model" for priority setting, which is based on the principle of linkage and exchange between funders and researchers, on one hand and, potential research users, on the other. They contend that both sides need to listen to each other in order to arrive at research priorities that are relevant to decision-makers.

In spite of the obvious benefits associated with the interaction between researchers and decision-makers, a note of caution has also been raised. It is assumed that such interactions can introduce bias into research if decision-makers press researchers to conduct research in ways that are likely to yield results favourable to their pre-existing beliefs and positions (Innvaer et al., 2002). This caution, however, does not negate the value of bringing the two communities together. Creating a "decision-relevant" culture among researchers and a "research-attuned" culture among decision-makers, therefore, becomes critical (Huberman, 1994; Roos and Shapiro, 1999). Landry et al. (2001) argue that the best predictor of research use is the early and continued involvement of relevant decision-makers in the research process. Obviously, involving decision-makers in all the knowledge production processes can bring about improved utilization of knowledge in decision-making.

KNOWLEDGE PRODUCTION IN UNIVERSITIES

Universities in Ghana, like many other universities in developing countries, are resource challenged in ways that impact adversely on their knowledge production (Boateng, 2002). Knowledge production entails cost. Unfortunately, most universities in developing countries are saddled with reduced budgets. Yet, they are expected to train ever increasing numbers of students while at the same time lead the way in search of knowledge and evidence for developmental purposes. Inadequate resources and many other disabling factors have trapped many universities in the developing world in Mode 1 knowledge production. Mode 1 knowledge production has been applauded for its rigorous academic excellence, but condemned for its limited applicability. Knowledge production modelled on Mode 1, therefore, leads to theoretical advancement, which might not necessarily and directly be accompanied by the scientific application of knowledge aimed specifically or generally at the social problems of social enterprises.

Universities in many parts of the developing world are yet to transit from Mode 1 to Mode 2 approach to knowledge production. Absence of such transition has created a gap between academics and decision-makers. Whereas the universities are doing their best to produce knowledge despite escalating constraints, such knowledge is largely not being transformed into action. Most research evidence, therefore, remains within the universities for only promotional purposes. Decision-makers are also left engaged in decisions informed mainly by experiential rather than scientific knowledge. Though both knowledge forms are critical in decision-making, scientific knowledge undoubtedly has become a sine qua non to development in contemporary knowledge society. This situation, however, has erupted mainly because of the absence of effective collaborations between academics and decision-makers. Ensuring effective collaboration between academics and decision-makers, therefore, becomes vital in efforts aimed at development in the developing world.

Such collaboration should be patterned on the Interaction Model, which presupposes that researchers as well as decision-makers explore their respective interests and endeavours. Ghana, like many other countries has a significant percentage of its researchers positioned in the universities. This implies that the universities have a role in ensuring effective collaboration between researchers and decision-makers.

A critical first step in such collaboration is the need for universities to renew their research agenda. Research embarked upon in universities must be propelled by the need to tackle directly or indirectly concerns of interest to many individuals and organizations in the society. Such a move will forestall the occurrence of the situations where research is left on shelves gathering dust rather than results. It is evident that Mode 1 research approach has left many research evidence unusable by the public because they lacked the relevant appeal to the public. This is because Mode 1 research is mainly theoretical in nature, and generally geared towards the advancement of academic disciplines rather than addressing felt needs inherent in the society.

However, this does not suggest that Mode 1 research must be relegated to the background. The point being stressed is that Mode 1 research must be approached with the society in mind by linking theories to real life problems. In other words, Mode 1 and Mode 2 approaches to research must be seen as complementing each other. This means that universities in Ghana must have a second look at what form of research counts in the promotion of those in academics and which ones are treated as mere academic exercises.

Individual success within the "ivory tower" in Ghana is judged principally by publications. Publications within the universities can be categorised into two; namely; peer reviewed and commissioned materials/grant-based papers. Evidently, peer reviewed materials are rated and considered in promotions whereas

commissioned materials are left out in promotion considerations in many universities if not in the country. Academics are, therefore, compelled to seek peer reviewed publications to advance themselves professionally rather than commissioned papers which may not necessarily lead to any professional advancement.

An important question is worth raising at this point. Which of these categories of research are patronised by the public? The answer obviously is the commissioned papers. Commissioned papers are likely to be used either in instrumental or enlightening fashion because they are research generally developed by both researchers and decision-makers or the ultimate users. Commissioned research is, therefore, demand pull because researchers are approached to address a specific interest within the society. Demand pull research or commissioned papers, however, have been critiqued for being biased towards the interest of research users (Invaer et al., 2002). Such a critique may be baseless because academics, as professionals, all other things being equal, are expected to keep to the tenets of academic objectivity rather than the subjectivity of users.

Commissioned papers in addition to their direct relevance also assist in the generation of funds for most universities. Most universities in the advanced countries in addition to peer review papers have been paying significant attention to commissioned papers in the career advancement of the researchers/academics of these universities. Universities in the developing world have to take a cue from this experience to broaden the base of research considered for promotions. This is because the place of universities is assessed based on its direct relevance to the society rather than only theoretical exuberance.

In recent times, many universities, globally, are adopting the “triple helix” approach in development by effectively working with governments and industries. The triple helix approach which advocates for triad collaboration among universities-government-industries is modeled on a Mode 2 understanding of knowledge in the society. The need for the triad relationship of universities-governments-industries is rooted in the quest for scientific knowledge to be made relevant to the larger society. Authentic interaction among the universities-government-industries becomes indispensable in the search of scientific knowledge to address the ever escalating problems inherent in contemporary society.

A way to guarantee effective use of knowledge is to integrate meaningfully the communities of researchers and decision-makers. Such interaction should occur at all the phases of research, from its production through dissemination to its application (Landry et al., 2001). It is expected that an active interaction between researchers and decision-makers will greatly enhance knowledge use. This is because the interests of the communities are both addressed throughout the knowledge production processes. Establishing and nurturing such interaction demands conscious and persistent efforts

on the part of both researchers and decision-makers. They should be guided by the fact that their respective works are never complete until they complement each other in the production and application of knowledge. The recent call and demand by scientific support agencies on the research community to justify plans for including decision-makers in their proposals represents an attempt at removing some of the barriers between research and decision-making. Indeed, the interaction model seeks to enhance knowledge use by perceiving knowledge production and application as complementary processes. Knowledge production, like the production of goods and services, is never complete until it finds meaning in practical sense. This is however not intended to compare knowledge production with the production of goods and services. Especially within the capitalist system, such comparison can be dangerous. The profit-oriented nature of the capitalist market has the potential of valuing knowledge in terms of market benefits to the neglect of social and intellectual gains. It could also turn knowledge production into an elite enterprise, if it is not already so, where the few who wield power and resources do not only own the means of production but also dictate what can be produced and sold.

Finally, in order to ensure that research has a meaningful place in practice, the gap between the research and decision-making will have to be bridged. Bringing the two communities together has some advantages. Pelz and Andrews (1976) found that corporate researchers who worked on assigned applied problems, and who spent at least part of their time in practice settings and assumed boundary-spanning roles in addition to their research tasks, were the most productive researchers. Rynes et al. (1999) found in the organizational research field that researchers who spent more time at organizational sites reported greater personal learning than those who spent less time and perhaps more importantly that their research was cited more frequently by other researchers. Cohen et al. (1998) published similar findings for researchers in the physical sciences.

LESSONS FOR CONTEMPORARY UNIVERSITIES

It is imperative that universities put new agenda on their research table in order to meet the task expected of them in contemporary society. Gibbons et al. (1994) characterize contemporary society as becoming more open and knowledge-conscious, thus paving the way for a new mode of knowledge production. The following may be worth considering by universities in meeting the challenges pose to them by contemporary society.

The use of peer-reviewed publications as the primary benchmark in assessing the work of university researchers/academics should be complemented by commissioned papers. This is relevant because commissioned papers, evidently, are more likely to impact directly on the society than peer-reviewed publications. Peer reviewed publications, in addition to satisfying the rigor of scientific inquiry should be approached in such a manner that would make them appealing to the general public.

An attention to commissioned or grant-based research means more money for the universities. More grants into universities for commissioned studies will complement the resources from the government which are always inadequate. Commissioned research will also offer students (particularly graduate students) an opportunity to be involved in such research. This will enhance their training as well as provide them with some money to support their education. In addition, graduate students trained by researchers should also be considered in the promotion of university gurus. This is because graduate students eventually become assets to the entire society after their training. Researchers, therefore, must be motivated to train or mentor more graduate students in critical academic areas of immense relevance to the society.

Closely tied to the aforementioned point is the need for researchers to strive to always approach their work from multi-dimensional perspective. This is essential, given the intricate nature of problems confronting society today. Transdisciplinary research must, therefore, be emphasised. Such approach to research is likely to make research results more engaging to the public because of its multifarious effects.

Furthermore, researchers should not only be engaged in research, but should endeavour always to make their findings/results accessible as much as possible. This can be attained by backing research with effective dissemination strategies - such as making research evidence available to public libraries, academic institutions as well as policy-makers; and also organizing seminars/workshops/conferences to unearth research findings - aimed at making research evidence accessible to ultimate users. The presentation and packaging of research findings also become relevant in ensuring effective accessibility of scientific evidence. Research findings as much as possible must be presented in a user-friendly language for easy understanding and possible implementation of results.

CONCLUSION

So far, a case has been made for researchers within African universities to liaise with decision-makers in all the stages of the research process. Such collaboration holds potential for bridging the gap between research and decision-making. Although universities are being challenged to engage more in collaborative /commissioned research to complement science-push research, care must be taken to ensure that universities are not plunged into or immersed in academic capitalism. This is because academic capitalism has the tendency of leading the academics of publicly funded universities to devote a more significant portion of their time in seeking and engaging in consultancy and commissioned or externally funded research at the expense of their primary role as teachers and researchers of both curiosity-driven and applied research. The paper, it is believed, has provided the theoretical benchmark for discussion on how universities all along have perceived knowledge and whether such perception is sustainable in contemporary knowledge-based society.

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