THE WITHERING AWAY OF LIBRARY AND INFORMATION SCIENCE AS A DISCIPLINE IN THE 21ST CENTURY

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ABSTRACT

[2] The paper is a critical examination of Masters degree curricula in Library and Information Science. Specifically, it examines the contents of the core courses in these programmes to find out to what extent these advance the frontiers of knowledge in the discipline. Data for the study was collected mainly from various Library and Information Science Masters degree core courses available on the Internet. The sample of 16 schools included, 10 from the USA, 5 from the UK and one from Tanzania. Findings revealed that core course curricula in Library and Information Science Masters degree programmes have not helped to advance the frontiers of knowledge in the discipline. None of the core courses in the sample as purely on theory although in some core courses issues of theory formed part of them. The study revealed that core course contents in the sample tend to over-emphasise applied and practical aspects of library and information science (including aspects of information technology) while neglecting theory construction and methodology.

The paper concludes that if this trend continues unchecked further advances in knowledge-building in Library and Information Science will be impossible. This will lead to a greater marginalization of the place of theory and methodology in the discipline and, consequently, the stagnation of Library and Information Science as a scientific discipline.

INTRODUCTION

This paper assumes that there is a link between what is taught at the graduate level of education and the development of knowledge in any academic and scientific discipline. However, there are substantial differences among disciplines on the extent to which these graduate programmes focus on the construction and generation of scientific knowledge. For example, in the social sciences, disciplines such as sociology, political science and economics have their core

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and elective courses well grounded on theory and methodology of aspects. Traditionally, core courses in library and information science have over-emphasized technical and practical aspects to the detriment of theory and methodology. This study is a content analysis of the current Masters degree core courses in Library and Information Science in Tanzania, the USA and UK. The study examines the place of theory and methodology in these core courses and discusses possible implications from the emerging patterns.

A review of major theoretical and methodological discourses has shown that there is limited consensus among disciplines and among scholars within disciplines on what constitutes science and how scientific knowledge is constructed. According to Wartofsky (1968) science is a way of knowing about the world and is also a body of knowledge. How phenomena are investigated, and how knowledge is created and accumulated over the years based on the process of inquiry is what distinguishes science from non-science. Established truths in science are thus constantly being critiqued, evaluated and subjected to testing on an objective rather than a subjective basis.

The criterion for demarcating science and non-science is the way knowledge is built in particular disciplines. Knowledge-building is about theory construction or the way in which phenomena are being explained in a given discipline. Differences exist between and within disciplines as to the definition of theory. Blaug (1980) observes that a theory needs to contain an explanation and a prediction. O'hear (1990) posits that scientific theory (an explanation claim) is dealing with the external world that is devoid of human interaction. This process must be impartial and without ideological influence. What is being argued here is that the testing and the ideological background of individual scientists should not influence construction of scientific theories. Popper's (1959) demarcation criteria for distinguishing science and non-science are based on the assumption that scientific methods are impartial. Researchers' presuppositions and intuitions should not influence scientific inquiry. However, most scholars now agree that during problem formulation, that is, the initial stages of theory construction many factors such as morals, social background and cultural background do influence a scientists' thoughts and ideas. In the second stage, when the proposed theory is being formulated for testing against evidence by observation, then objectivity becomes a critical factor. Basically, it is through objectivity that observer bias and inaccuracies can be avoided to make replication possible.

How are scientific theories constructed? Literature advances two approaches to theory construction. These are deductive and inductive approaches. The inductive approach to theory construction posits that science beginning from and can be controlled by observations untainted by the presuppositions. According to this model, science is developed from observations to theory. Data is tabulated to see patterns of associations between variables of interest. From these associations causality is then inferred and generalisations made.

These generalisations are then tested through replication in various conditions.

Finally, if substantial evidence supports the hypothesis with no negative evidence it gives the impression that the hypothesis is true. This is what is called the inductive proof in the literature. The Baconian inductive model of observations without presupposition has been criticised on the grounds that in some disciplines, such as sociology, objectivity is difficult to attain. It is further argued that perhaps it is not totally desirable to eliminate human subjectivity in scientific research. In addition, according to O'hear (1990:27) another major weakness of inductive logic, and in fact the standard criticism of inductive logic, is that we are never sure that cases we have not experienced will be like those we have experienced. In other words, a theory cannot be generated through the process of induction because there is no guarantee that what we have observed will persist in the future. "All flies I have observed are black, therefore all flies are black" is an illogical conclusion. There is no reason to generalise from the few instances we have observed to those we have not observed. Thus a theory must be logically formulated and must in principle be justifiable by empirical observation.

Popper, in an attempt to modify inductive logic, came up with the concept of falsification. Popper argues that while we cannot prove theories, we can disprove them. Thus in science what we need to do is not to look for proofs of our theories by accumulating empirical evidence but rather we should attempt to disprove our theories. The aim of science should be to eliminate false theories as a well-corroborated scientific theory must be testable and must survive severe testing. This, according to Popper, means that a theory must specify in advance observable conditions that would falsify the theory, resisting falsifications and predicting results that do not follow from other competing explanations.

The second major approach in theory construction is deduction. In social sciences, this is the traditional approach to theory construction whereby a scientist would start by specifying a topic of interest and then proceed to find out what has already been done about the topic of interest. From the review key concepts and variables on the topic will be identified. The construction of hypothetical patterns or relationships among variables is the next step. These hypotheses are then empirically tested. Among the major problems of deductive logic are difficulties in originating theoretical concepts and establishing an association between variables.

This background information has revealed the significant link between theory and research in the process of developing scientific knowledge. However, beyond this assumption there is limited consensus among social science researchers, scholars and scientists on what constitutes a scientific method of inquiry. There is even less agreement among social scientists as to whether the so-called scientific methods of research that are appropriate in the natural sciences would be appropriate in the social sciences.

How have these theoretical and methodological issues been advanced in Library and Information Science? The development of Library and Information Education started in the West in the 19th century. At that time librarianship was primarily about custodial duties that related mainly to library documents. The sort of training provided then was largely vocational and the emphasis was on library routines and practices. The training was largely unsystematic and mainly carried out by individual libraries. In the UK formal librarian education programmes started in 1885 and in the 1960s full-time programmes were firmly established. In the USA, Dewey opened the first Library School at Columbia College in 1887 (Advances in Librarianship, 1982).

During the 20th century the library was emerging as a crucial institution in most schools and librarians in the West tried to gain professional status. Moreover, the image of a librarian as a teacher was also becoming common. By the 1920s, there were more than 15 library schools in the USA. During this time focus was on training professional workers and not clerical staff. In 1928 the first Graduate Library School in the USA was established at the University of Chicago with its curriculum directed away from specialisation to integration with other fields. This multi-disciplinary approach to training in librarianship began to develop as library work grew in complexity.

In East Africa, training in librarianship first began at certificate level and then advanced to diploma level. It is only in recent years that degree programmes in Library and Information Science have been established. In Tanzania for example, training at certificate level began in the 1970s. With the diploma programme starting in 1989. The Tanzania Library Services Board (The Public Library System) organises these two programmes. In the 1997/1998 academic year, the first graduate programme in Library and Information Studies was launched at the University of Dar es Salaam with the first intake of only two students. The number however increased to 10 students by the second intake in 1998/1999 academic year. This programme, which is under the Faculty of Arts and Social Sciences (FASS), is administered and taught by Library Academic Staff, the majority of whom are Ph.D. holders. According to the Act that established the University of Dar es Salaam, the University Library has no mandate to run a degree programme and hence the involvement of the FASS for the purpose of conferring degrees.

Bramley (1975) observes that, among the major criticisms of the nature and content of the postgraduate courses in Library and Information Science, they are vocation-oriented. The assumption is that students are probably not very much aware of basic principles of librarianship and information work and, therefore, it was felt they needed a dose of such concepts. Furthermore, since the aim is to train students for careers in librarianship there was no need to dwell much on theoretical issues, methodology, etc. Bramley (*op.cit*) concludes that, as a result of this, library and information studies at graduate level became dull, while attempts to intellectualise librarianship resulted in half-baked irrelevant theorising.

The introduction of doctoral programmes in Library and Information Science has elevated the status of the profession by enhancing the capabilities of researchers and scholars in the discipline to tackle issues of knowledge construction and generation rather than concentrate on the practices alone. Has this had any trickle-down effect on the content of Masters core courses in Library and Information Science? The current study will address this question.

Methodology
The core courses in the Masters degree programmes in Library and Information Science were analysed for content. A sample of 16 (about 23% of the entire study population) Library Schools were selected at random for the study from a total of 60 library schools from the USA and 8 from the UK found on the Internet. Out of the 16 sample library schools selected for the study, 10 were from the USA, 5 from the UK and one from Tanzania. The decision to select the samples from the USA and UK schools was based on the understanding that these countries have a long history in Library and Information Science Education. Thus useful comparisons, experiences and conclusions can be drawn. The UK schools were over represented compared with the USA schools. However, the interest in this study was not in establishing the statistical significance of the relationship between variables, but simply to find out the extent to which core courses in Library and Information Science Masters degree programmes included courses on theory and research methodology. Information on courses in the Department of Library and Information Studies at the University of Dar es Salaam was obtained from printed sources while information for other schools was found on the Internet.

Findings
Results of the content analysis of the Masters degree core courses in Library and Information Science revealed interesting patterns. A total of 31 different core courses was identified from the 16 sample schools. None of these core courses was purely on theory or theory-related issues. Theoretical issues were however covered as specific topics in a number of core courses. In 8 out of 31 core courses (about 26% of all core courses) theory-related topics were covered. Some variations were observed between UK and USA schools. More core courses in the USA cover theoretical issues than in the UK. About 42% of the core courses in the USA included issues of theory while only 13% of the core courses in the UK sample included theoretical topics. In the Department of Library and Information Studies at the University of Dar es Salaam only one core course out of 4 (25%) covered theoretical issues.

The leading core course in the sample that included topics relating to theory is Managing Information Organisations. Four out of 8 schools (50%) that indicated this as one of their core courses included theory, theoretical and

conceptual issues among the topics covered. The other core courses that covered theoretical issues are user-needs assessment, basic philosophy of reference work, introduction to library and information science.

The development of scientific knowledge in any discipline hinges on the close link between theory and research. The findings of this study have shown some intriguing results on methodology courses offered in Masters degree programmes in Library and Information Science. Only 56% percent of all the sampled schools indicated research methodology as one of their core courses. Again there was a huge variation between core courses offered in the USA and those in UK. 60% of the USA schools included research methodology among the core courses whereas the figure is only 40% for UK schools. The Library and Information Science programme at the University of Dar es Salaam includes research methodology as one of its core subjects.

The results also show interesting patterns and trends in the core courses offered in the Masters degree programmes starting with the USA schools (percentages of the sampled schools offering the core course is in brackets):

Organization of Information (90%), Library and Information Society (60%), Information Storage and Retrieval (60%), Research Methodology (60%), Information Sources and Services (40%), Introduction to LIS (40%), Managing Information Organization (40%). The rest of the core courses had insignificant percentages.

The results for the UK were as follows:
Information Management (80%), Information sources, use and searching (60%), Collection development (60%), Information technology (40%), Information retrieval storage (40%), Research methods (40%) and others had 20% each.

DISCUSSION
The above findings have shown that, globally, core courses in the Masters degree programmes in Library and Information Science are by and large still geared towards practice. The emphasis is on the relevance of the course contents to the future career needs of the students. The programmes seem to be driven by the market. Consequently, more weight is put on the traditional core subjects like cataloguing, classification, reference, bibliography and library administration. This probably reflects the applied nature of the discipline. Indeed from the outset this makes sense, because doctors are trained to be doctors and lawyers are trained to be lawyers. Likewise this should be the case for librarian-cum-information professionals. Yet most scholars would argue that even in disciplines that are applied in nature it is crucial that the theoretical basis for these practices be developed. A body of theoretical knowledge has to be developed for a scientific discipline to grow. Shaffer (1968:87) argues that:

> Without theory there can be no more than craft practised by skilful individuals who have a charitable attitude towards the people they serve. If research has produced a body of tested principles for librarianship, then education for librarians has moved wisely in turning the direction from practice to understanding... Lack

of theoretical foundation is perhaps the greatest weakness in Library School curricula.

This study has shown that core courses currently offered in some of these schools are not grounded on theory. This is despite the early warnings from scholars in the discipline on the need to incorporate theory development or knowledge-building in these courses. The traditional core courses are still dominant in these programmes, the only exception being the emerging core courses dealing with issues of information technology.

CONCLUSION
One definite prediction that can be made from this study is that in the 21st century Library and Information Science as a scientific discipline may stagnate unless particular attention is paid to theory and methodological issues in the discipline. One possible explanation for this is the neglect in the graduate course curriculum of the place of theory and methodology. This will lead to further marginalization of the discipline in academia. The emphasis on the emerging technologies such as ICT in Library School curricula all over the world does not in itself add much to the scientific growth of Library and Information Science discipline (Muddiman, 1995).

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