

# EMPLOYABILITY SKILLS GAP: LIBRARY AND INFORMATION SCIENCE EDUCATION AND TRAINING IN ZIMBABWE

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## ABSTRACT

This paper, which is based on a PhD study, explores the question why Library and Information Science (LIS) education and training programmes are criticised for producing graduates without the requisite skills to perform right away in their first jobs. The reason why LIS graduates are purportedly reproached for being inadequately prepared for the jobs they apply for has remained an under-researched topic in LIS education and training, despite the fact that it is highly debated in scholarly discourse and literature. Qualitative and quantitative methodologies were used to inform the study design, data collection and analysis procedures. The qualitative perspective was dominant, complemented by the quantitative perspective. The findings suggest that the development of work-ready graduates is not part of the mandate of LIS education and training programmes. Because of this, the development of work-ready graduates is hampered and it is further constrained by the existing discrepancy between high-level policy positions in the country and operational behaviour, different perspectives among LIS employers and faculties on what higher education stands for, lack of mutual partnerships among key stakeholders, constant changes in the LIS field and resource inadequacies. This finding suggests that the development of LIS graduates' employability skills will remain insubstantial if it is not supported by policy and regulatory frameworks, well-established partnerships among policymakers, higher education institutions and employers, and both human and physical resources.

**Keywords:** Library and Information Science; education and training; employability skills; change; higher education



## INTRODUCTION

The world is in the midst of a paradigm shift from focusing on labour (as in the agricultural era) or capital (as in the industrial era) to knowledge as a critical resource for socio-economic development (Maurice 2012). This economic paradigm shift, coupled with advanced developments in information and communication technologies, has fundamentally revolutionised the structure, nature, mission, practice and services of libraries and the landscape they operate in (McKendrick 2012). All these changes bear testimony to the prediction by Toffler (1980) that each paradigm dictates the means of production (i.e. inputs in the production of goods or services in order to make an economic profit), work organisation, education systems and skills sets. Tanner and Tanner (1995) assert that paradigms serving society dictate what is expected of its educational systems and what the core competencies of professions that serve society should be.

The dictates of the contemporary knowledge economy and technological advances have compelled LIS professionals to extend their presence to cyberspace where they can collaborate and link with local libraries at regional, national and even global levels, place the full content of institutional scholarly resources online for public access, publish information about library and archival resources, create vibrant and interactive library websites that link library holdings and users, place finding aids online, create online tutorials on information literacy skills (ILS), and offer reference services via emails, text messaging and mobile interfaces (Campbell 2006). As a result, LIS professionals have become system designers, knowledge managers, web designers and administrators, educators, problem solvers, navigators and publishers (Campbell 2006). They have also become technology officers, project managers, data administrators, data curators, data modellers, data architects, web librarians, digital librarians, cyber librarians, information scientists and knowledge analysts (Ugwuanyi and Ezema 2010).

In other words, LIS work environments have expanded beyond libraries, and the roles of LIS professionals have evolved (Sacchanand 2012) beyond the professional confines of the LIS discipline. The evolving roles of LIS professionals and the broadening of their work environments have brought about structural changes in the profession that have revolutionised the long-standing practices, definitions, technologies, standards, tasks, principles and skills sets related to the accomplishment of professional tasks (Becher and Trowler 2001). LIS professionals are called upon to “explore, develop, and implement new models, new skills and attitudes, new metrics, new ways of looking at old problems, and new approaches for new problems” (Mathews 2014, 22).

## BACKGROUND TO THE STUDY

The first LIS Technical Vocational Education and Training (TVET) programme in Zimbabwe was introduced in 1985 at the Harare Polytechnic College. Currently four polytechnic colleges offer LIS education and training, namely the Harare, Bulawayo,

Gweru and Joshua Mqabuko Nkomo polytechnic colleges (Hikwa 2010). TVET education programmes follow a common curriculum that is regulated and synchronised by Zimbabwe's Higher Education Examination Council. LIS TVET programmes offer three levels of undergraduate qualifications: a national certificate, a national diploma and a higher national diploma. The TVET curriculum focuses on developing applied competencies such as cataloguing and classification, information management, information retrieval and dissemination, collection development, library management, records management, research, and information communication technologies (ICTs).

LIS education and training programmes were introduced in university settings in 2000. The first university to offer LIS as an academic discipline was the National University of Science and Technology (NUST), and the Zimbabwe Open University (ZOU) followed suit in 2009. University LIS education programmes have autonomy over their curricula. The curricula focus on five broad subjects: information organisation and retrieval, information management, ICTs, management and research. The education programmes focus on inculcating broad knowledge and basic professional skills in LIS graduates. University LIS education programmes offer two levels of qualification: undergraduate (degree) and postgraduate (postgraduate diploma, master's degree and doctoral degree) (Munyoro 2014). However, the LIS education and training programmes at both NUST and ZOU have to date not produced doctoral graduates, and this is attributed to a lack of capacity as a result of a massive brain drain of highly qualified and experienced academics (Munyoro 2014).

## GOALS OF LIS EDUCATION AND TRAINING

The traditional goals of higher education (HE) are teaching and learning, research and community engagement (MacGregor 2011). Colbeck (2002) states that the teaching and learning goal is critical for the development of learned and skilled human capital for industry and the professions, whereas the research goal is essential for the advancement of new knowledge. It can therefore be said that teaching, learning, research and community engagement form the foundation of LIS education and training programmes and that they represent "a network of fundamental, interdependent 'choices' of the basic configuration into which a system's units are organized, and the activities that maintain both this configuration and the system's resource exchange with the environment" (Gersick 1991, 15). "Like a decision tree, the trail of choices made by a system rules many options out, at the same time as it rules mutually contingent options in" (Gersick 1991, 16).

However, some academics have raised concerns about the relevance and role of teaching and research in higher education institutions (HEIs). Barnett (1992) argues that teaching and research are different and incompatible academic activities that should be differentiated in HE because research interferes with teaching as much as teaching limits the available time for research. In addition, a series of empirical studies conducted

to determine if there is a measurable correlation between teaching and research found that although there was a positive correlation it was very small: only 0.6 according to Hattie and Marsh (1996) and only 0.12 according to Feldman (1987). The conclusion reached was that teaching and research outputs were autonomous, neither enhancing nor detracting from each other (Feldman 1987; Hattie and Marsh 1996). However, Colbeck's (2002) study found that mediating factors, such as organisational resources, production processes and capacities and individual characteristics of faculties were the major reasons for the negative association between teaching and research.

Wormald (2013) claims that institutional orientations of HEIs determine their research focus, research priority and research output. In a classification of HEIs by the Carnegie Foundation for the Advancement of Teaching (2010), it is shown that undergraduate-focused HEIs prioritise teaching and learning rather than research, whereas postgraduate-focused institutions prioritise research output rather than teaching and learning. Feldman (1987) suggests that academic discipline variations also affect the association between teaching and research outputs. This is confirmed by Colbeck (2002) who asserts that academic discipline variations influence the null and negative or positive correlation between teaching and research output in HEIs.

Colbeck (2002) maintains that the availability of research infrastructure plays a critical role in determining research outputs in HEIs. The European Strategy Forum on Research Infrastructures (2011) defines research infrastructure as the facilities, resources and related services used by research communities to conduct top-level research in their respective fields of speciality. The European Strategy Forum on Research Infrastructures (2011) corroborates the claim of Colbeck (2002) that the availability of research infrastructure, such as information services (libraries, archives), resources (databases, laboratories, competencies, funding, computing facilities) and services (high-capacity/speed communication networks, networks of computing facilities) determine the level of faculty engagement in research activities in HEIs. This view is also espoused by the Southern African Regional Universities Association (SARUA) (2010) in its assertion that if basic research infrastructure is not in place, it is very difficult for HEIs to attract robust research funding and world-class researchers.

HEI policies also contribute to the competition between research and teaching. Fairweather (2002) maintains that institutional policies on rewards and evaluation are sometimes biased towards research, thereby fragmenting research and teaching. Fairweather (2002, 10) declares that in most HEIs, faculty rewards, promotions and tenure are based on research output rather than on the commonality of teaching and research. He further claims that in most HEIs, research outputs attract more incentives than teaching. As a result, HE faculties tend to neglect teaching to attain rewards for research.

## COMPETENCIES ENCAPSULATED IN LIS CURRICULA

Tam, Harvey, and Mills (2007) used the Delphi method for their study conducted in Hong Kong and China to analyse the core competencies and employability skills that their LIS curricula develop. According to the study, the curriculum content of these LIS programmes focuses on the following areas: information service skills, research and analytical skills, communication skills, collection development skills, management skills, subject knowledge and information services organisation skills, employability skills and personal qualities. Employability skills are described as “willingness to learn and continue to learn, flexibility, creativity, innovation, change, awareness of wider professional issues, ability to conceptualize, people oriented, collaborative partnership, ability to learn from others and teamwork” (Tam and Mills 2006, 184–185). Tam and Mills (2006, 185) conclude that LIS curricula in Asia can best be organised broadly into three areas: “information services skills together with research and analytical skills; communication and management skills; and collection development skills and subject knowledge.”

A study done by Shiholo (1999) in Africa revealed that a high premium was placed on competency in information technology and management: LIS programmes focused on knowledge of automation activities, networking, databases, online searching, systems development, computer technology, indigenous knowledge systems, introductory courses in ICTs, management of information and knowledge management. The said author concludes that in the emerging networked environment, LIS graduates should have a proper foundation in information technologies, communication theories, financial skills, information systems/management, quantitative skills, environmental skills, environmental knowledge, information seeking, and user interfaces.

The studies reviewed above show that the competencies encapsulated in LIS curricula globally are increasing continuously, which leads Stoker (2000) to warn of the dangers of an ever-enlarging core. According to him, an enlarged intellectual body of knowledge ultimately results in the marginalisation of important core courses such as cataloguing and classification, a view espoused also by Gorman (2004). The observation of Ocholla (2001) regarding the phasing out of courses in cataloguing and classification formerly regarded as integral in the LIS profession is confirmed by the finding of Shiholo and Ocholla (2003) that the need for traditional subjects such as cataloguing, classification, reference sources, collection development, information services and preservation has declined over the years. Myburgh (2003) concludes that traditional LIS technical knowledge and skills have become less important, whereas personal and transferable skills traditionally not included in LIS curricula have gained importance.

## SKILLS NEEDED IN THE LIS WORK ENVIRONMENT

In a study done by Marchionini and Moran (2012) it was found that some graduates and their employers believed that LIS education and training programmes had not done enough to develop the employability skills that students were required to have. Employers expect graduates to have technical and discipline-specific competencies and a range of employability skills and attributes that include:

(1) interpersonal skills: ability to participate as a team member, train others, service clients, exercise leadership, negotiate and work with diversity (2) information skills: ability to acquire, evaluate and add value to information (3) technology skills: select technology, apply technology to tasks, maintain and troubleshoot equipment (4) systems skills: understand systems, improve or design systems, monitor and correct performance (5) resources skills: identify, organize, plan and allocate resources (6) personal attributes: self-esteem, sociability, self-management, integrity, honesty (7) thinking skills: thinking creatively, making decisions, solving problems, visualizing, knowing how to learn and reason (8) basic skills: reading, writing, performing arithmetic and mathematical operations, listening and communication. (Secretary's Commission on Achieving Necessary Skills 2000, xvii–xviii)

Most of the skills and competencies referred to in the report of the commission mentioned above are outside the boundaries of “what a university education all too often provides” (Barber, Donnelly, and Rizvi 2013, 12). This has prompted Kennan, Willard, and Wilson (2006) to declare that the LIS employment landscape has become highly variable and heterogeneous, resulting in a vague set of skills that employers seem to value. This suggests a major disjuncture between what the labour market demands and what is supplied. Arguably it can be concluded that HE goals and missions have become detached from the needs of the labour market. This is demonstrated in media reports that there are “high rates of graduates’ unemployment, yet, ironically, there are a lot of unfilled vacancies due to unavailability of the sought-after competencies in the labor market” (McKendrick 2012, 5).

In a study by Halder (2009) it was found that LIS employers required graduates to be proficient in group presentations, writing skills and solicitation of grants. Head and Wihbey (2014) add that LIS employers favour employability skills such as creativity and leadership and administrative, interpersonal and technological competencies. Halder (2009) maintains that skills in planning, designing, developing, implementing and managing information systems have become integral to efficient work flows and the provision of information services.

In their study, Shongwe and Ocholla (2011) found that applicants for LIS positions were required to possess in-depth ICT expertise encompassing knowledge of ICT infrastructure, software implementations, ICT policies, electronic records management systems and management of information systems. In addition, it was revealed that communication skills, people management skills, leadership skills, interpersonal skills, problem-solving and analytical skills, financial management skills, project management skills and administrative skills were highly regarded in LIS work environments in



South Africa. Furthermore, employability skills, such as being a team player, confident, diplomatic and honest and having credibility and integrity, were sought after by LIS employers (Shongwe and Ocholla 2011).

Rifkin (1995, 25) notes that “no longer is the accumulation of skills and knowledge a primary prerequisite for employment”, but it has become imperative to be able to adapt to new situations, continuously learn, work in teams and be creative, entrepreneurial and service oriented. The diversity of the skills that LIS professionals are required to have suggests that LIS work environments need individuals with trans-disciplinary knowledge, competencies, capabilities, training and varying interests beyond the core of most LIS education and training programmes. This view is reiterated by Barber, Donnelly, and Rizvi (2013) who note that the labour market demands core competencies and skills that go beyond the acquisition of disciplinary expertise and technical knowledge, which form the core of most university courses.

The disjuncture between supply and demand has prompted employers to question the relevance of the skills and competencies provided by institutions of higher learning (Million+ London Economics 2013). Anderson (2007) reports that LIS education programmes in Australia have been criticised for producing graduates without the requisite skills to function in their first jobs. Marchionini and Moran (2012) indicate that LIS education programmes in the United States of America have been reproached for failing to meet the immediate needs and requirements of the current LIS work environment. Singh (2003) has found that graduates and postgraduates produced by LIS schools in India are challenged in terms of ICT competencies, skills, confidence to interact with information technology specialists, and evaluation of ICT applications required for service delivery.

LIS employers on the African continent, for instance in South Africa (Raju 2013), Botswana (Thapisa 1999) and Kenya (Kavulya 2007), affirm the frequently noted concern that LIS university graduates are not well prepared for the job market. This is reaffirmed in a report on Zimbabwe (Nziramasa 1999), which states that graduates produced in HEIs are inadequately prepared to meet contemporary labour requirements. Chikonzo (as cited in Burnett 2013), in assessing the changing needs of information professionals in Zimbabwe, substantiates the assertion in the literature that LIS graduates are not adequately prepared to fulfil the roles and responsibilities that the work environment expects.

However, Stoffle and Leeder (2005) argue that the criticism levelled against LIS education and training is as old as the profession itself and is premature because many of the critics do not understand the goals and operational demands of LIS education and training programmes, the standards to which they should conform and the binding regulatory frameworks, funding streams and inadequacies bedevilling them. Vanderlinde and Van Braak (2011) assert that effective curriculum delivery needs to be supported by adequate and sustainable human, physical, technological and financial resources as well as relevant policy and regulatory frameworks.

Therefore, the disjuncture between theory and practice and between supply and demand, and the purported criticism that LIS graduates are not “work-ready” signify a major problem in LIS education and training. Moreover, lessons drawn from the demise of the music industry in the 1990s show that the industry failed to heed the calls of concern from its fans and paid little attention to the fundamental changes in the industry at that time, which proved to be disastrous for the music industry (Hanson-dePaula 2013). This suggests that the survival and relevance of the LIS academic discipline is under threat. The concerns expressed in the literature motivated the researcher to explore the accusation that LIS education and training programmes do not produce industry-ready graduates. The study sought to address the following research questions:

- a. What are the goals of LIS education and training in Zimbabwe?
- b. What competencies are encapsulated in the LIS curriculum?
- c. What LIS skills are needed by the information industry?

## METHODOLOGY

The purpose of the study was to explore why LIS education and training programmes in Zimbabwe were criticised for churning out graduates who were not “industry-ready”. The study was informed by the post-positivist paradigm. Both qualitative and quantitative methodologies were used to inform the design and data collection. The qualitative perspective was dominant, complemented by the quantitative perspective. Integrating both qualitative and quantitative methodologies allowed for methodological pluralism, which provided scope for using multiple data collection techniques. This gave the researcher the flexibility to explore complex and evolving issues, whereas the use of a single method would not have made it possible to adequately address the salient issues of the problem (Keen and Packwood 1995).

The study integrated case study and survey research methods within a single research design (Creswell 2009). The respondents in the case study were surveyed using questionnaires and in-depth interviews. This integrated research approach was flexible enough to allow the production of both qualitative and quantitative data (Yin 2003) and provided a viable means to collect data from those who had had lived experiences in LIS education and training and practice. Furthermore, the data collection techniques (in-depth interviews, survey questionnaires and a documentary review) used provided the researcher with the opportunity to obtain data on individual and group insights into salient issues relating to LIS education and training and to obtain comprehensive, quality, trustworthy and context-specific data on the research problem.

The population of the study comprised six deans/heads of department of LIS academic units in Zimbabwe, 47 LIS faculty staff, 108 LIS students and 22 LIS employers. The respondents were purposively selected in order to obtain the richest data from experienced, knowledgeable and affected individuals. The purposive sampling



method allowed the researcher to decide what needed to be known and to find people who had valuable knowledge and lived experiences relating to the subject under study (Hazeri, Martin, and Sarrafzadeh 2009). Merriam (2001) asserts that when the purposive sampling technique is used to collect data from people who are knowledgeable and experienced about the phenomenon being studied, it results in acceptable outcomes.

## FINDINGS AND DISCUSSION

In this section, the data that were gathered are presented and the findings are interpreted and situated in relation to relevant existing literature. The study assessed LIS education and training in Zimbabwe in the context of the paradigm shift in the information industry. Out of the sample population of six deans/HODs, 47 faculty staff members, 108 final-year students and 17 LIS employers, the response rates achieved were 100 per cent for the deans/HODs, 65.9 per cent for LIS faculty staff members, 65.9 per cent for LIS final-year students and 100 per cent for LIS employers.

LIS HODs/deans and faculty staff were asked to answer a question about the goals of LIS education and training in Zimbabwe. All six HODs/deans interviewed emphasised that teaching and learning were the major goals of LIS education, and 65.9 per cent of the LIS faculty staff concurred with that. This view was aptly summarised by a university dean who noted, “Our core function is teaching and learning and the emphasis is on equipping LIS graduates with a broad knowledge base applicable in diverse work environments.” Another noted, “The goal of LIS education programmes is teaching and learning.”

The findings suggest that the goal of LIS education and training programmes in Zimbabwe is teaching and learning and that the focus is on inculcating in students a broad education foundation applicable to diverse LIS work environments. These findings corroborate the findings recorded in the KALIPER report (KALIPER Project Advisory Committee 2000) that LIS curricula address broad-based information environment issues and information problems. As such it can be said that LIS education programmes in Zimbabwe are founded on and entrenched in broad theoretical teachings. A perspective that is shared by Vann (1961, 24) is that education for librarians should be based on “theoretical teaching[s] ..., the idea being that, given a right theory, the proper accommodation to circumstances can easily be made.” This perspective suggests that producing work-ready graduates is not one of the key strategic drivers of LIS education and training programmes in Zimbabwe. As long as developing employability skills is not a strategic goal of LIS education and training programmes in Zimbabwe, these programmes will continue to be criticised for producing graduates who are inadequately prepared for contemporary work environments.

The data obtained in the current study suggest that research is not emphasised as a critical goal of LIS education programmes in Zimbabwe. Instead, the central goal of LIS education and training in Zimbabwe is teaching and learning. This finding substantiates

the assertion of Wormald (2013) that an institution's orientation determines its research focus. The Carnegie Foundation for the Advancement of Teaching (2010) declares that undergraduate-focused HEIs prioritise teaching and learning rather than research. As such it can be said that LIS education programmes in Zimbabwe are undergraduate focused and not research oriented.

In response to the sub-question, "Have you integrated employability skills in the curriculum?" LIS HODs/deans and faculty staff unanimously agreed that employability skills were already embedded in the LIS curriculum. Their views can be summarised by quoting the remark of one of the deans that, "Generic transferable skills are already entrenched in the various modules on offer." One of the HODs noted, "Employability skills cannot be taught but can be acquired on the job." Another added, "Producing work-ready graduates is not our goal or strategic vision."

The data suggest that employability skills are already included in the different modules of LIS curricula. It is, therefore, presumed that LIS curricula in Zimbabwe inculcate the requisite employability skills in graduates. However, if note is taken of the observation by Shongwe and Ocholla (2011) that employability skills, such as teamwork, credibility, confidence, diplomacy, honesty and integrity, are sought after by LIS employers, it might be taken to signify that although employability skills are assumed to be entrenched in the modules of LIS education programmes, there is no evidence that LIS graduates acquire these skills during their studies. Knight (2011) argues that this concern could be addressed if HEIs (specifically in Australia) devise a system of assessing employability skills, a system that gives graduates the ability to prove to employers that they have gained these skills. She further recommends that graduates' attributes are provided as part of their degree transcripts. The criticism that LIS graduates are inadequately prepared for their jobs might be attributed to the lack of tangible evidence that LIS graduates can show to employers that they have gained employability skills from their education.

The data show that employers and academics have different perspectives and beliefs regarding employability skills. Knight (2011) states that employers regard HE as a key tool in the development of employability skills in graduates. On the other hand, scholars such as Lowden et al. (2011) argue that the role of HE is to develop critical thinking and analysis skills and not employability skills (which are subject to change). They further maintain that to change university courses to meet the demands of employers would reduce the demand for these courses as they will no longer offer what students are interested in studying. Similarly, Bawden and Robinson (2012) posit that it is much more valuable for students to have an in-depth understanding of the profession, theories, principles and concepts that define the LIS profession and distinguish it from other information-related professions than to have employability skills because such core knowledge will remain useful long after the technological and employability skills have cycled out. They further declare that employability skills can be learned on the job and through lifelong learning and continuing professional development and workplace

learning, a view that the National Institute of Adult Continuing Education (1998) shares based on the perspective that particular attitudes and values are highly contextual.

Additionally, Gunn, Bell, and Kafmann (2010) raise the concern that engaging with the employability skills agenda results in the diminution of HE academic standards and objectives. Lowden et al. (2011) consider the focus on employability skills as an attack on academic freedom in terms of content. This explicitly suggests that academics think that HEIs are much more than a production line for work-ready graduates. These different perspectives exemplify the power dynamics at play between HEIs and the industry in terms of who defines the core competences that are useful and whose discourse is dominant (Becher and Trowler 2001, 5). The apparent power dynamics suggest the existence of unresolved issues between LIS education and training institutions and employers. Docherty (2014) posits that employers' opinions and academics' deeply rooted beliefs conflict: the latter regard their expertise to be an arbiter of value in determining what counts as knowledge and what changes can be advocated. Indications are that employers are dissatisfied with the existing practice whereby academics devise degree schemes and offer these to the market with little or no input from the industry (Longhurst 2007). Docherty (2014, 3) believes that "employers are not seeking changes in HE provision that would risk losing specialist knowledge, but they want educators to pay more attention to research showing which skills are needed by different sectors and to respond quickly to it." These unresolved issues between LIS education and training institutions and employers might be one of the reasons why LIS graduates are allegedly criticised for being inadequately prepared for the work environment.

The lack of specific objectives and policy relating to the development of employability skills in LIS education and training programmes signifies that such development is not mandatory and consequently not prioritised. The data show that no policies or regulatory frameworks are in place at either national or institutional level to enforce and support the development of employability skills in HEIs in Zimbabwe. In addition, the development of employability skills is not ingrained in the mission statements, learning and teaching strategies and strategic documents of LIS education and training institutions. In a study that Knight (2011, 79) conducted in Australia it was found that,

although there has been a publicly expressed consensus for the need to embed employability skills within HE, the methods of ensuring that students gain these skills through their discipline-based degrees are neither clear nor easy. The best way of ensuring that employability skills are learned at university is still being debated and dealt with in campuses across Australia.

The above statements suggest that the integration of employability skills in LIS education and training cannot flourish in the absence of national policies and regulatory frameworks and institutional policies. Policies and regulatory frameworks facilitate the development of employability skills and the meaningful integration of these skills into the curriculum and institutional, departmental and faculty practices. These policies need to be ingrained

at both national and HEI levels if the deficit in graduates' employability skills is to be addressed. It is clear that the issue of the employability skills deficit is complex and needs to be addressed at a national level. This confirms the assertion made in a publication of Lowden et al. (2011) that the contribution of both primary and secondary education to the development of employability skills should not be underestimated. The findings of the current study suggest that there are major disconnections between high-level policy positions and operational behaviour, which implies that there is still much to be done to foster a collective response by HEIs and policymakers in Zimbabwe to the employability skills deficit issue. This existing disjuncture referred to might be one of the reasons why employers and government agencies allege that not enough LIS graduates are work-ready.

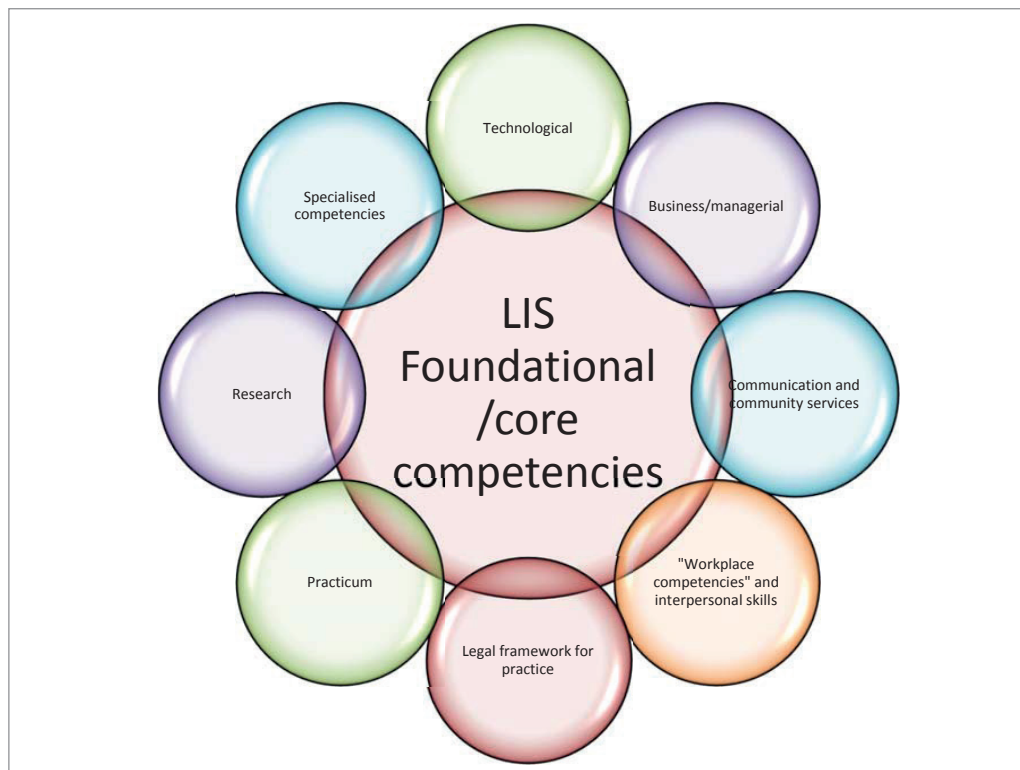
The lack of policy and regulatory frameworks at both national and institutional levels in Zimbabwe signifies that funding for the development of employability skills is not prioritised. If the basic funding infrastructure is not in place it is very difficult for LIS education and training programmes to develop employability skills. A view espoused by Lowden et al. (2011, 9) is that "as long as key drivers for university funding do not explicitly include a focus on promoting employability skills it is arguable that HE education and training courses will struggle to produce graduates who have skills and attributes demanded in the labour market." By implication, available funding streams determine the level of faculty engagement in the development of employability skills in LIS graduates. Lack of funding to encourage an institutional culture supportive of the development of employability skills might be another reason why LIS graduates are criticised for being inadequately prepared for the labour market.

Furthermore, the data obtained in the current study show that key stakeholders in the employability skills agenda, HEIs and industry exonerate themselves from taking responsibility for developing and promoting employability skills. Industry stakeholders regard it as the duty of HEIs, whereas HEIs relegate the responsibility to industry. This situation was corroborated by the participating faculty staff who observed that "Employability skills cannot be taught but can be acquired on the job" and "Producing work-ready graduates is not our goal or strategic vision": this despite evidence to the contrary that LIS work environments require applicants with well-developed employability skills (Shongwe and Ocholla 2011). Smith and Yates (2011) state that the development of employability skills requires sustainable support and collaboration from industry, policymakers, government, educators and students. In a document published by the National Institute of Adult Continuing Education (2012) it is argued that developing employability skills is a responsibility that should be shared equally among key stakeholders: HEIs have the responsibility to educate and train; policymakers have the duty to secure the employability of all citizens; graduates must be actively responsible for the continuous development of their skills; and industry, that employs a workforce and offers services to consumers, has the responsibility to inculcate particular values and attitudes and shape behaviours.

LIS work environments need to offer support to new recruits in the form of opportunities for continuing professional development and workplace learning so as to develop the required employability skills. In addition, employees need funding and time to engage in continued professional development in order to acquire the required competencies. Furthermore, LIS graduates need quality work placements when they do their practicums. The data revealed that the current instability of the economic environment in Zimbabwe has resulted in limited opportunities and funding for continuing professional development and workplace learning programmes. On the other hand, there are limited quality practicum placements available in LIS work environments. Galvin (1995) asserts that good internships are costly to provide in terms of money, time and capacity. The Directorate of Industrial Training (2007) has found that students are exploited by industry as they are viewed as cheap labour. In addition, students on attachment are assigned mundane tasks or are given inadequate work, both of which compromise industrial attachment as a meaningful learning experience. Van Dorp (2008) argues that experimental learning opportunities, such as industrial attachments, do not necessarily provide meaningful learning experiences due to various challenges that significantly affect the overall quality of the programmes. Industry's lack of commitment in providing quality practicum placements suggests that industry seeks to hire highly trained graduates without making meaningful contributions to their development. Docherty (2014) and Lowden et al. (2011) state that if the employability skills agenda is to be tackled comprehensively, the responsibility for addressing the employability skills gaps must be shared among all stakeholders. Without the concerted effort and active participation of all stakeholders, the development of employability skills will remain a desirable but unattainable agenda in Zimbabwe. LIS education and training programmes will continue to produce graduates without the repertoire of skills and attributes required in the labour market. The criticism that LIS graduates are not work-ready might be attributed to the lack of a unified effort among stakeholders.

Moreover, Petrova and Ujma (2006) highlight that the development of employability skills poses a challenge for HEIs due to students' lack of appreciation of learning the soft skills that make them employable. Lowden et al. (2011) confirm this, asserting that students resent having to practise skills rather than study the content of their degree programmes. This suggests that "passivity" still dominates LIS education and training in Zimbabwe. Smith and Yates (2011) posit that students need to be taken out of their comfort zones and become actively involved in the development of their employability competences. Lowden et al. (2011) advocate students' acceptance of greater personal responsibility and ownership of their education. Student passivity may be one of the reasons why LIS graduates are considered not work-ready.

In reviewing LIS curricular documents, the researcher was guided by the question, "What competencies are encapsulated in the LIS curricula?" The data obtained indicated that LIS curricula in Zimbabwe encapsulate nine broad competencies. The findings are illustrated in Figure 1.



**Figure 1:** Competencies encapsulated in the LIS curricula

At the core of the schema presented in Figure 1 lie LIS foundational competencies such as cataloguing, classification, information retrieval, indexing, reference management, collection development and information management, library management and human resources. The outer schema comprises the following supportive competencies that form an integral part of service provision: technological; business/managerial; communication; teamwork, flexibility, resilience and advocacy; legal and information governance and compliance, ethics; applied research, analysis and interpretation of information; and specialised competencies. Competencies in the inner and outer schemas form the deep structure or underlying order and embody the core beliefs, values, products, market, technology and competitive strategy (Tushman and Romanelli, 1985) relating to LIS education and training programmes in Zimbabwe. This underlying order represents “a network of fundamental, interdependent ‘choices’ of the basic configuration into which a system’s units are organized, and the activities that maintain both this configuration and the system’s resource exchange with the environment” (Gersick 1991, 15).

Further, the documented data show that the competencies encapsulated are continuously increasing, making it difficult to determine what constitutes the core



competencies of LIS education and training programmes in Zimbabwe. This finding confirms the finding of Boll (1972) that LIS core discipline knowledge is continuously enlarging. Boll also refers to the additional problem that students' studying time is not increasing correspondingly. Raju (2005, 70–71) queries “whether it is practical for LIS departments to teach all that has to be taught, especially in an increasing diverse information environment where new skills are required as new technologies are released.” Stilwell (2004, 22) argues that “no single department is likely to have the capacity to span the full spectrum of programmes required.” She recommends the setting of priorities in LIS education and training programmes to balance curriculum content, time and available resources. Therefore, inadequate time, capacity and resources might be further reasons why LIS graduates are criticised for being inadequately prepared.

Looking at the spectrum of competencies encapsulated in the LIS curricula, it becomes clear that LIS work environments have evolved beyond the library, have become varied and have different requirements and expectations as far as LIS graduates are concerned. A perspective shared by Kibandi (as cited in Burnett 2013) is that individual library and information environments dictate skills relevancy. This could mean that LIS education and training programmes are educating graduates for diverse and continuously changing work environments. The diverse needs and expectations and continuously changing work environments make it impossible for LIS education and training to come up with a one-size-fits-all educational solution. Further, LIS education programmes lack the time, capacity and resources to span the full spectrum of courses required (Stilwell 2004). This results in severe pressure, which LIS education and training programmes in Zimbabwe are unable to effectively absorb and assimilate, leading to fissures and fractures in the curricula that undermine the relevance and suitability of LIS curricula. This might be another reason why LIS graduates are considered to be inadequately prepared for their jobs.

The diversity and interdisciplinary nature of the competencies encapsulated in LIS curricula is another issue as it blurs the distinction between academic discipline boundaries. This corroborates the finding of Jacobs (2014) that there is a trend towards a multi-/trans-disciplinary integrated approach to knowledge in HE. The finding suggests a notable paradigm shift in HE from emphasising knowledge stocks towards emphasising multi-/trans-disciplinary knowledge flows. This perspective is shared by Evans-Greenwood, O’Leary, and Williams (2015) who assert that in the information/knowledge era, professional knowledge stocks are giving way to trans-disciplinary knowledge flows.

In addition, the diverse and multi-/trans-disciplinary nature of the competencies encapsulated in LIS curricula signifies discontinuous changes in the LIS field, which Pugh (2000) describes as a distinguished break with past practice that has no template to guide the change. This signifies a revolutionary period in which the underlying order of LIS has been broken and is undergoing a wholesale transformation until a new underlying order is configured (Tushman and Romanelli 1985). This revolutionary

period is characterised by uncertainty about the future of LIS education and training. Marchionini and Moran (2012) state that it has become difficult to foresee the preparation needed for future information specialists and to predict the information environment where LIS graduates will be working even a decade from now. This shows that it has become almost impractical for LIS education and training programmes in Zimbabwe to predict the preparation needed for LIS graduates. The purported reproach that LIS graduates are inadequately trained might be symptomatic of the transient nature of the LIS field.

Moreover, the data show that compulsory and credit-bearing service-learning practicum modules have been integrated in both TVET and university sectors. In support of this integration, Augustyn and Cillié (2012) argue that librarianship is an applied discipline that evolved out of practice and as such cannot be decoupled from practice. Freeland (2016) advocates this connection between university education and practice. Nugent (2015) considers such a connection critical not just for success in contemporary work environments but also for active civic and democratic participation—a trend which Freeland (2016) considers a necessary revolution in higher education. The finding suggests a perceptible trend towards vocationalisation of university LIS education and training programmes in Zimbabwe, and it signifies that LIS education programmes are reforming their education systems to meet the needs of contemporary socio-economic and technological imperatives. Barber, Donnelly, and Rizvi (2013) advise countries to reform their education systems to provide their citizens with the knowledge, skills and attitudes that enable them to continuously adapt, learn, relearn and engage actively in dynamic knowledge-based economies.

In the current study, LIS employers and students were asked to respond to the question, “What LIS skills are needed by the information industry?” The data obtained suggest that LIS work environments value employability skills and applied skills such as communication, teamwork, organising, planning, the ability to acquire and add value to information, self-esteem, self-management, creativity, enterprise and applied technological skills. This was aptly summarised by a senior librarian who noted that, “We need graduates with generic transferable skills and applied ITC competencies.” Another respondent suggested that “Creative graduates who are quick to learn and adapt to new work environments” were needed. The data signify that LIS work environments require graduates who have a broad general knowledge and are able to continuously learn and adapt to changing work environments. By implication, there has been a profound shift in the nature of skills that employers require. Kennan, Willard, and Wilson (2006) state that the LIS employment landscape is changing and has become highly variable and heterogeneous, resulting in employers demanding a vague set of skills—a view that is shared by Barber, Donnelly, and Rizvi (2013) who note that the labour market is demanding core competencies and skills that go beyond the disciplinary expertise and technical knowledge that form the core of most university courses. The findings signify that LIS work environments are prioritising employability skills rather than specialised

professional knowledge. Yet LIS education programmes are structured heavily towards degree specialisation in their purpose, research and administrative functions. This disjuncture might be the reason for the criticism levelled against LIS graduates that they are not work-ready.

LIS final-year students were asked to comment on the statement, “LIS graduates are not well-suited to or prepared for the job market.” The majority (78%) noted that they were inadequately prepared for contemporary work environments, whereas 22 per cent indicated that they were adequately prepared. Of the students, those who considered themselves inadequately prepared mentioned gaps in different skills and knowledge as reasons. A male student summarised the different perspectives and opinions expressed when he stated that “Some of the emphasised knowledge [areas], such as cataloguing and library procedures and operations, are no longer relevant and applicable in contemporary work environments.” Another student noted the inappropriateness of the curricula, stating that “The curriculum used does not speak to the reality on the ground.” Yet another student brought to the fore the lack of ICT applied skills, stating that “We lack well-developed, applied ICT skills.” Another noted, “We lack hands-on practice due to inadequate ICT resources.” Yet another student commented as follows on the scarcity of available resources:

We scramble for the available ICT resources and cataloguing and classification standards. During practice-based examinations we are quarantined and write the examination in batches—a scenario which is stressful and disheartening.

The data suggest that there are gaps in LIS students’ knowledge and skills. This was attributed to dated curricula and inadequate resources. This finding confirms the finding in an earlier study done in Zimbabwe by Chikonzo (as cited in Burnett 2013) that the existing LIS curricula are too theoretical and have limited relevance to and application in contemporary work environments. The curricula reviewed indicated that this was indeed the case: the LIS TVET curriculum was significantly reviewed in 2004 and the NUST and ZOU curricula have not been meaningfully reviewed since their inception in 2000 and 2009 respectively. Virkus (2012) points out that a curriculum is the best barometer of changes and trends in the profession and that indications are that LIS education and training programmes need vibrant and up-to-date curricula. The lack of meaningful reform of LIS education programmes’ curricula has been attributed to funding constraints. Findings reached in a study done by SARUA (Southern African Regional Universities Association 2010) confirm that most HEIs in Africa have been experiencing major budget deficits and cannot afford to invest in curricula reviews or the requisite physical and human resources. Mayasari (2010) states that the extent and success of educational reforms depend on available human and physical resources. Based on this, the current study suggests that the LIS educational system needs sustainable funding streams.

Of the students, 22 per cent indicated that they were adequately prepared. The diverse perspectives of LIS students were captured by one student who noted that “The training received laid the professional foundation necessary for practice.” The data show that LIS education and training programmes give students the required professional foundation for practice and that it is up to individual students to take responsibility for developing the right attitudes and employability skills. This finding reiterates the earlier finding referred to that LIS students should be called upon to take responsibility for and nurture their own employability skills. The 22 per cent of students are representative of a group who are willing to learn and relearn in order to continuously nurture and develop the employability skills and personal attributes they need to attain success in an information/knowledge economy.

## CONCLUSION

Based on the findings reached in the study, the conclusion can be drawn that the problem of the lack of employability skills that HEI graduates possess is not limited to the LIS academic discipline but that it is a phenomenon affecting all contemporary service professions. The results show that the LIS profession and the LIS academic field are ever-evolving owing to advanced developments in ICTs and changing socio-economic imperatives. As a result, it has become almost impossible to predict the skills needed in the field five years from now. However, LIS education and training programmes have made laudable attempts to address graduates’ employability skills deficit. Nevertheless, the lack of a clear and common conceptual framework for defining and assessing employability skills is a major challenge. Furthermore, the lack of evidence in graduates’ degree transcripts confirming their acquisition of employability skills during education and training is a major concern that needs to be addressed.

The absence of objectives supportive of the development of employability skills in LIS education and training suggests that such development is not prioritised, not only in LIS teaching and learning programmes but also in the funding mechanisms of LIS education and training institutions. If the development of employability skills is not prioritised in LIS institutional objectives and the funding for this is not provided, employability skills will remain suppressed and LIS graduates will continue to be inadequately prepared for their future roles.

The lack of supportive policies and regulatory frameworks at both national and institutional level that enforce the development of LIS graduates’ employability skills suggests a fundamental disconnection between high-level policy positions and operational behaviour in LIS education and training. With no enforcement mechanisms and quality measures in place, the depth and scope of the employability skills agenda will remain susceptible to institutional preference, faculty capacity, interests and attitudes and available funding, as a result of which LIS education and training programmes will continue to be criticised for producing inadequately prepared graduates.

The uncertainty and anxiety experienced in the LIS field due to the transitory nature of the information environment and the broadening of LIS work environments make it very difficult to devise and provide a one-size-fits-all LIS education and training programme. The diversity of the competencies integrated into the LIS curriculum and demanded in the labour market has become complex. This suggests that until a new underlying order is configured and achieved, uncertainty will prevail in the LIS field and LIS education and training programmes will continue to be criticised for producing graduates who are not work-ready.

The inadequacies in LIS education and training institutions in terms of human and physical resources, policy and regulatory frameworks and ICT infrastructure indicate a lack of facilitative measures that support the development of LIS graduates' employability skills. If these measures are not in place, the extent and success of an employability skills drive will remain limited and LIS education and training programmes will continue to produce inadequately prepared graduates. The absence of facilitative measures is an inherent barrier in LIS education and training programmes that limits their ability and capacity to comprehensively address the employability skills issue.

The criticism levelled against LIS graduates that they are inadequately prepared for their roles in the labour market and the issues of resource inadequacies, continuous changes in and broadening horizons of the LIS work environment signify the need for deep-seated transformations in LIS education and training. The problem is that as the required transformations are unforeseen they might be difficult to prepare for adequately as no template exists to inform and guide such transformations. It is recommended that LIS educators, practitioners, professional associations and policymakers devise mechanisms and strategies to understand, study, analyse, predict and adapt to the changes in the field. Similar strategies were developed for the United Kingdom by Lord Leitch who was commissioned by the British Government in 2004 to

identify the UK's optimal skills mix for 2020, to maximize economic growth, productivity and social justice, set out the balance of responsibility for achieving a skills profile and consider the policy framework required to support it. (Her Majesty's Treasury 2006, par. 1)

The implementation of the recommendations in the Leitch report mentioned above brought about the much needed radical restructuring of the HE delivery system from a supply-led system to a demand-led system (Longhurst 2007) that introduced "reforms of curricula, approaches to teaching, learning and assessment and movement towards a more student-centred learning process" (Broady-Preston 2007, 5). In addition, the report managed to establish a clear link between productivity and higher-level workforce education and training (Longhurst 2007), to route funding and policy frameworks towards the development of employability skills and to facilitate direct engagement between HE and employers.

This study of LIS education and training has shown that the issue of employability skills has remained marginalised and under-prioritised at both national and institutional

levels. The inadequacies of existing LIS curricula, policy frameworks, funding streams and accreditation to deal with the employability skills issue suggest that LIS education and training programmes in Zimbabwe will continue to be criticised for producing inadequately trained graduates for the industry. Therefore, LIS education programmes need to offer curricula that meet the requirements of the changed socio-economic and technological market. If the status quo is maintained, the relevance and survival of LIS as an academic discipline are under threat.

It is believed that the findings of this study fill some of the gaps in the knowledge base and research on LIS education and training in Zimbabwe. The study has achieved the aim of creating an awareness of transformation taking place specifically in the LIS profession and the academic discipline of LIS, and it could make a major contribution to the future development of LIS curricula and LIS education systems. In addition, the findings provide fundamental information for use by decision-makers at national and institutional levels to analyse, advocate and strategically plan educational reforms. Therefore the findings of this study could be valuable in improving policy in public educational systems.



## REFERENCES

- Anderson, K. 2007. "Education and Training for Records Professionals." *Records Management Journal* 17 (2): 94–106. <https://doi.org/10.1108/09565690710757896>
- Augustyn, J., and G. Cillié. 2012. "Theory and Practice Need to Find Each Other Anew." *Mail and Guardian*, September 7, 2012, 2–3.
- Barber, M., K. Donnelly, and S. Rizvi. 2013. "An Avalanche is Coming: Higher Education and the Revolution Ahead." Accessed May 12, 2017. [http://med.stanford.edu/smili/support/FINAL%20Avalanche%20Paper%20110313%20\(2\).pdf](http://med.stanford.edu/smili/support/FINAL%20Avalanche%20Paper%20110313%20(2).pdf)
- Barnett, R. 1992. *Improving Higher Education: Total Quality Care*. Bristol, PA: Open University Press.
- Bawden, D., and L. Robinson. 2012. *Introduction to Information Science*. London: Facet.
- Becher, T., and P. R. Trowler. 2001. *Academic Tribes and Territories: Intellectual Enquiry and the Culture of Disciplines*. 2nd ed. Buckingham, UK: Society for Research into Higher Education.
- Boll, J. J. 1972. "A Basis for Library Education." *Library Quarterly* 42 (2): 195–211. <https://doi.org/10.1086/620026>
- Broady-Preston, J. 2007. "Changing Information Behaviour: Education, Research and Relationships." Paper presented at the World Library and Information Congress: 73rd IFLA General Conference and Council, Durban, South Africa, August 19–23, 2007.
- Burnett, P. 2013. *Challenges and Problems of Library and Information Science Education in Selected African Countries*. Paper presented at the IFLA WLIC Conference on Future Libraries: Infinite Possibilities. Session 199, Singapore, August 22, 2013. Accessed October 16, 2016. <https://pdfs.semanticscholar.org/b8d3/fe18dd0ae4cbf0a61d6b0a472c2c2b8b0f19.pdf>
- Campbell, J. D. 2006. "Changing a Cultural Icon: The Academic Library as a Virtual Destination." Accessed November 3, 2016. <http://net.educause.edu/ir/library/pdf/ermo610.pdf>
- Carnegie Foundation for the Advancement of Teaching. 2010. "The Carnegie Classification of Institutions of Higher Education." Accessed May 12, 2017. <http://www.carnegiefoundation.org/classification>
- Colbeck, C. 2002. "State Policies to Improve Undergraduate Teaching: Administrator and Faculty Responses." *Journal of Higher Education* 73 (1): 3–25. <https://doi.org/10.1080/00221546.2002.11777128>
- Creswell, J. W. 2009. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Los Angeles, CA: Sage.
- Directorate of Industrial Training. 2007. *Guidelines for the National Industrial Attachment Training Scheme*. Nairobi: Government Press.
- Docherty, D. 2014. "Universities Must Produce Graduates Who are Ready for Any Workplace." Accessed November 14, 2016. <https://www.theguardian.com/higher-educationnetwork/2014/may/22/universities-must-produce-graduates-who-are-ready-for-work>

- European Strategy Forum on Research Infrastructures. 2011. "Strategic Report on Research Infrastructure: Roadmap 2010". Accessed July 16, 2017. [https://ec.europa.eu/research/infrastructures/pdf/esfri-strategy\\_report\\_and\\_roadmap.pdf](https://ec.europa.eu/research/infrastructures/pdf/esfri-strategy_report_and_roadmap.pdf)
- Evans-Greenwood P., K. O'Leary, and P. Williams. 2015. "The Paradigm Shift: Redefining Education." Accessed March 12, 2017. <https://www.slideshare.net/eraser/the-paradigm-shift-redefining-education-peter-evansgreenwood-kitty-oleary-peter-williams>
- Fairweather, J. S. 2002. "The Mythologies of Faculty Productivity: Implications for Institutional Policy and Decision Making." *Journal of Higher Education* 73 (1): 26–48. <https://doi.org/10.1080/00221546.2002.11777129>
- Feldman, K. A. 1987. "Research Productivity and Scholarly Accomplishment of College Teachers as Related to Their Instructional Effectiveness: A Review and Exploration." *Research in Higher Education* 26 (3): 227–298. <https://doi.org/10.1007/BF00992241>
- Freeland, R. 2016. "A Third Way: Integrating Liberal and Professional Education." Accessed July 19, 2017. <http://www.nebhe.org/thejournal/a-third-way-integrating-liberal-and-professional-education/>
- Galvin, T. J. 1995. "Convergence or Divergence in Education for the Information Professions: An Opinion Paper." Accessed May 12, 2017. <http://cat.inist.fr/?aModele=afficheN&cpsidt=3677909>
- Gersick, C. J. G. 1991. "Revolutionary Change Theories: A Multilevel Exploration of the Punctuated Equilibrium Paradigm." *Academy of Management Review* 16 (1): 10–36. <https://doi.org/10.5465/AMR.1991.4278988>
- Gorman, M. 2004. "Whither Library Education?" *New Library World* 105 (9/10): 376–380. <https://doi.org/10.1108/03074800410557330>
- Gunn, V., S. Bell, and K. Kafmann. 2010. "Thinking Strategically about Employability and Graduate Attributes: Universities and Enhancing Learning for Beyond University. Enhancement Themes. QAA." Accessed October 23, 2016. <http://www.enhancementthemes.ac.uk/docs/publications/thinking-strategically-about-employability-and-graduate-attributes.pdf?sfvrsn=20>
- Halder, S. N. 2009. "Multimodal Roles of Library and Information Science Professionals in Present Era". *International Journal of Library and Information Science* 1 (6): 92–99.
- Hanson-dePaula, J. 2013. "The Future of Book Publishing: 5 Lessons from the Music Industry." Accessed August 21, 2016. <http://www.mixtusmedia.com/blog/the-future-of-book-publishing5-lessons-from-the-music-industry>
- Hattie, J., and H. W. Marsh. 1996. "The Relationship between Research and Teaching: A Meta-Analysis." *Review of Educational Research* 66 (4): 507–542. <https://doi.org/10.3102/00346543066004507>
- Hazeri, A., B. Martin, and M. Sarrafzadeh. 2009. "Exploring the Benefits of KM Education for LIS Professionals." *Education for Information* 27 (1): 1–20. <https://doi.org/10.3233/EFI-2009-0869>
- Head, A. J., and J. Wihbey. 2014. "At Sea in a Deluge of Data". *The Chronicle of Higher Education*. Accessed July 10, 2016. <http://chronicle.com/article/At-Sea-in-a-Deluge-of-Data/147477/>

- Her Majesty's Treasury. 2000. *Productivity in the UK: The Evidence and the Government's Approach*. London: UK Treasury.
- Hikwa, L. 2010. "Integrating Information Ethics in Library and Information Science Curricula in Zimbabwe: African Network for Information Ethics." Accessed January 20, 2017. <http://www.africanfoethics.org/pdf/2010/presentations/Hikwa%20paper.pdf>
- Jacobs, G. 2014. "Towards a New Paradigm in Education: Role of the World University Consortium." *Cadmus* 2 (2): 116–125. Accessed May 21, 2017. <http://cadmusjournal.org/files/pdfreprints/vol2issue2/reprint-cj-v2-i2-towards-a-new-paradigm-in-education-gjacobs.pdf>
- KALIPER Project Advisory Committee. 2000. *Educating Library and Information Science Professionals for a New Century: The KALIPER Report*. Reston, VA: Association for Library and Information Science Education.
- Kavulya, J. M. 2007. "Training of Library and Information Science (LIS) Professionals in Kenya: A Needs Assessment." *Library Review* 56 (3): 208–223. <https://doi.org/10.1108/00242530710735993>
- Keen, J., and T. Packwood. 1995. "Qualitative Research: Case Study Evaluation." *British Medical Journal* 12 (311): 444–446. <https://doi.org/10.1136/bmj.311.7002.444>
- Kennan, M. A., P. Willard, and C. S. Wilson. 2006. "What Do They Want? A Study of Changing Employer Expectations of Information Professionals." *Australian Academic and Research Libraries* 37 (1): 17–37. <https://doi.org/10.1080/00048623.2006.10755320>
- Knight, L. 2011. "Employability Skills: A Gap in the Discourse." Accessed October 20, 2016. [www.cedol.org/wp-content/uploads/2012/02/Lizzie-Knight-article.pdf](http://www.cedol.org/wp-content/uploads/2012/02/Lizzie-Knight-article.pdf)
- Longhurst, D. 2007. "Foundation Degree Forward: Working for a Degree of Difference." Paper presented at the Higher Education Academy Enterprise and Employability Conference, Llandrindod Wells, May 1–2, 2007.
- Lowden, K., S. Hall, D. Elliot, and J. Lewin. 2011. "Employers' Perceptions of the Employability Skills of New Graduates." Accessed October 12, 2016. [https://www.kent.ac.uk/careers/docs/Graduate\\_employability\\_skills%202011.pdf](https://www.kent.ac.uk/careers/docs/Graduate_employability_skills%202011.pdf)
- MacGregor, K. 2011. "Global: Community Engagement Emerging as a Key Issue." Accessed June 20, 2017. <http://www.universityworldnews.com/article.php?story=20110611125956423>
- Marchionini, G., and B. B. Moran. eds. 2012. "Information Professionals 2050: Educational Possibilities and Pathways". Accessed June 13, 2017. <https://sil.unc.edu/sites/default/files/publications/Information-Professionals-2050.pdf>
- Mathews, B. 2014. "Flip the Model: Strategies for Creating and Delivering Value." *Journal of Academic Librarianship* 40 (1): 16–24. <https://doi.org/10.1016/j.acalib.2013.09.004>
- Maurice, B. 2012. "Causes of Social Change in the Society." Accessed November 1, 2016. <https://www.kenyaplex.com/resources/3459-causes-of-social-change-in-the-society.aspx>

- Mayasari, I. 2010. "The Punctuated Equilibrium Paradigm as the Way of Thinking to Achieve High Performing Organization." Accessed May 2, 2017. <http://iinmayasari.files.wordpress.com/2010/02/the-punctuate-equilibrium-paradigm.pdf>
- McKendrick, J. 2012. *The Digital Squeeze: Libraries at the Crossroads—the Library Resource Guide Benchmark Study on 2012 Library Spending Plans*. New Providence, NJ: Unisphere Research.
- Merriam, S. B. 2001. *Qualitative Research and Case Study Applications in Education*. San Francisco, CA: Jossey-Bass.
- Million+ and London Economics. 2013. "What's the Value of a UK Degree?" Accessed June 1, 2017. [http://www.millionplus.ac.uk/documents/reports/Value\\_of\\_a\\_UK\\_degree\\_Full\\_report.pdf](http://www.millionplus.ac.uk/documents/reports/Value_of_a_UK_degree_Full_report.pdf)
- Munyoro, P. 2014. "Library and Information Science Education and Training in Zimbabwe and the Paradigm Shift in the Information Industry." Doctoral thesis, University of KwaZulu-Natal, South Africa.
- Myburgh, S. 2003. "Education Directions for New Information Professionals." *Australian Library Journal* 52 (3): 213–227. <https://doi.org/10.1080/00049670.2003.10721549>
- National Institute of Adult Continuing Education. 2012. "Managing Challenging Behaviour within Skills Provision for Unemployed Adults." Accessed July 12, 2016. <http://www.learningandwork.org.uk/wp-content/uploads/2017/01/Managing-Challenging-Behaviour-Within-Skills-Provision-for-Unemployed-A>
- Nugent, S. G. 2015. "The Liberal Arts in Action Past, Present, and Future." Accessed June 21, 2017. <https://www.cic.edu/p/Liberal-Arts-Symposium/Documents/Symposium-Essay.pdf>
- Nziramasanga, C. T. 1999. *Report: Presidential Commission of Inquiry into Education and Training*. Harare, Zimbabwe: Government Printers.
- Ocholla, D. N. 2001. "Curriculum Response to a Changing National and International Information Environment: Theoretical and Methodological Paradigms on Review and Revision." *Education for Information* 19 (2): 143–167. <https://doi.org/10.3233/EFI-2001-19204>
- Petrova, P., and D. Ujma. 2006. "Students' Awareness of the Importance of Transferable Skills for Employability". In *Enhancing Graduate Employability in Business and Management, Hospitality, Leisure, Sport, Tourism*, edited by N. Becket, and P. Kemp, 148–154. Newbury: Threshold.
- Pugh, L. 2000. *Change Management in Information Services*. Aldershot, Hampshire: Gower.
- Raju, J. 2013. "The LIS School in the ICT Age: A Casualty, or a Catalyst for a Paradigm Shift?—The Case of South Africa." *Libri* 63 (3): 250–258. <https://doi.org/10.1515/libri-2013-0020>
- Raju, R. 2005. "LIS Education and Training in South Africa: A Historical Review." *South African Journal of Libraries and Information Science* 71 (1): 74–84.
- Rifkin, J. 1995. *The End of Work: The Decline of the Global Labour Force and the Dawn of the Post Market Era*. New York, NY: G. P. Putnam's Sons.

- Sacchanand, C. 2012. "Building Collaboration between Library and Information Science Educators and Practitioners in Thailand: Transcending Barriers, Creating Opportunities." Accessed June 21, 2017. <https://www.ifla.org/past-wlic/2012/213-sacchanand-en.pdf>
- Secretary's Commission on Achieving Necessary Skills. 2000. "What Work Requires of School: A SCANS Report for America 2000." Accessed June 22, 2016. [http://www.gsn.org/web/\\_shared/SCANS2000.pdf](http://www.gsn.org/web/_shared/SCANS2000.pdf)
- Shiholo, M. 1999. "Competencies for the Information Professional in the 21st Century: A Delphi Study." MA thesis, Moi University, Eldoret, Kenya.
- Shiholo, B. M., and D. N. Ocholla. 2003. "Changing Trends in Training Needs for Information Professionals in Kenya." Accessed May 12, 2017. <http://Libres.Curtin.Edu.Au/Libres13n1/Shiholoocholla.Htm>
- Shongwe, M., and D. N. Ocholla. 2011. "A Tracer Study of LIS Graduates at the University of Zululand, 2000–2009." *Mousaion* 29 (2): 227–245.
- Singh, S. P. 2003. "Library and Information Science Education in India: Issues and Trends." *Malaysian Journal of Library and Information Science* 8 (2): 1–18.
- Smith, G., and P. Yates. 2011. "Team Role Theory in Higher Education." *Training Journal* (March, April, May). Accessed November 10, 2016. [www.belbin.com/media/1282/tj-article-team-role-theory-in-higher-education.pdf](http://www.belbin.com/media/1282/tj-article-team-role-theory-in-higher-education.pdf)
- Southern African Regional Universities Association. 2010. *Rebuilding Higher Education in Zimbabwe: Implications for Regional Collaboration*. Johannesburg: SARUA.
- Stilwell, C. 2004. "Alumni Perceptions of a Post Graduate Information and Library Science Education Programme at the University of Natal, South Africa." *South African Journal of Libraries and Information Science* 70 (1): 20–29.
- Stoffle, C. J., and K. Leeder. 2005. "Practitioners and Library Education: A Crisis of Understanding." *Journal of Education for Library and Information Science* 46 (4): 312319. <https://doi.org/10.2307/40323911>
- Stoker, D. 2000. "Persistence and Change: Issues for LIS Educators in the First Decade of the Twenty-First Century." *Education for Information* 18 (2/3): 115–122. <https://doi.org/10.3233/EFI-2000-182-302>
- Tam, L., R. Harvey, and J. Mills. 2007. "How Relevant are Library and Information Science Curricula outside Their Geographic Domain." *Education for Information* 25 (2): 73–91. <https://doi.org/10.3233/EFI-2007-25201>
- Tam, L. W., and J. Mills. 2006. "The Education Needs of Information Professionals from South East Asia in the Digital Era, with Special Attention to the Need of the Hong Kong Special Administrative Region: Preliminary Results of a Delphi Study." Paper presented at the Asian-Pacific Conference on Library and Information Education and Practice 2006, Nanyang Technological University, Singapore, April 6, 2006.
- Tanner, D., and L. Tanner. 1995. *Curriculum Development: Theory into Practice*. 3rd ed. Englewood Cliffs, NJ: Merrill.

- Thapisa, A. 1999. "Developing Lasting Competencies for a Twenty-First Century Information Economy Workforce in Africa." *Library Management* 20(2): 90–99. <https://doi.org/10.1108/01435129910251557>
- Toffler, A. 1980. *The Third Wave*. New York, NY: William Morrow.
- Tushman, M. L., and E. Romanelli. 1985. "Organizational Evolution: A Metamorphosis Model of Convergence and Reorientation." In *Research in Organizational Behavior*, edited by L. L. Cummings, and B. M. Staw, 171–222. Greenwich, CT: JAI.
- Ugwuanyi, C. F., and J. U. Ezema. 2010. "Challenges of Students' Industrial Work Experience Scheme (SIWES) in Library and Information Science in the ICT Environment." Accessed March 12, 2017. <http://connection.ebscohost.com/c/articles/56660184/challenges-students-industrial-work-experience-scheme-siwes-library-information-science-ict-environment>
- Vanderlinde, R., and J. van Braak. 2011. "A New ICT Curriculum for Primary Education in Flanders: Defining and Predicting Teachers' Perceptions of Innovation Attributes." *Educational Technology and Society* 14 (2): 124–135.
- Van Dorp, C. A. ed. 2008. *Stimulating Employability through Cross Sector Virtual Mobility*. (European Funded Research on Flexible Modality Internships). Heerlen: European Association of Distance Teaching Universities.
- Vann S. K. 1961. *Training for Librarianship before 1923: Education for Librarianship Prior to the Publication of Williamson's Report on Training for Librarianship*. Chicago, IL: ALA.
- Virkus, S. 2012. "Challenges of Library and Information Science (LIS) Education". Accessed March 12, 2017. [http://www.unica-network.eu/sites/default/files/Sirje%20Virkus\\_0.pdf](http://www.unica-network.eu/sites/default/files/Sirje%20Virkus_0.pdf)
- Wormald, M. 2013. "Emergence of the Canadian Research University." *College Quarterly* 16 (3). Accessed February 23, 2017. <http://www.collegequarterly.ca/2013-vol16-num03-summer/wormald.html>
- Yin, R. K. 2003. *Case Study Research, Design and Methods*. 3rd ed. Newbury Park, CA: Sage.