In the eyes of beholder: Assessing the ICT competencies of LIS graduates through the lens of their employers in Pakistan

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Abstract:

This study aims to explore the expectations of library employers with regards to ICT competencies of LIS graduates in order that they may enhance their employment outcomes. This study opted for a qualitative research design. It used the phenomenology approach as its purpose was to assess the ICT skills required among LIS professionals as perceived by employers in the LIS job market. It also explored challenges faced by libraries while hiring LIS professionals at entry level and the role that LIS schools' curricula play to develop ICT competencies in a competitive digital environment. The data were collected through in-depth interviews from 11 senior academic library leaders. It was found that the major challenges faced by libraries to find competent LIS professionals were the dearth of skilled professionals followed by a low level of motivation, poor written and verbal communication skills and a lack of competitive salary packages. While library employers expected that LIS graduates should have core ICT competencies such as being well-versed with the basic tools of Microsoft Office, searching skills, social media awareness, knowledge of integrated library systems and familiarity with the user oriented smart phone use for entry level jobs. The respondents pointed to the importance of LIS schools' curricula to develop ICT competencies among LIS graduates. They opined that the curricula should place more emphasis on practice rather than theory, standardization among schools, regular content up-gradation with outcome based learning. There is also a need of faculty development programs for proper implementation of curricula and collaboration of different stakeholders to lessen theory and practice gap. The respondents perceived that attitude and willingness of LIS professionals towards their learning and developing emerging ICT competencies were important followed by the role played by LIS schools and national and regional professional associations. The findings of the study would be helpful for academicians to redesign the curriculum to develop enhanced employability skills among graduates.

Keywords: ICT competencies; LIS graduates; Employers' perceptions; LIS Schools-Pakistan

Introduction

Emergence of digital technologies have changed the information marketplace where, "Technology competency is not an option, it is critical for all librarians and staff" (Thompson, 2009). In the era of emerging technologies, new breed of information professionals is required for designing interactive services in virtual environment. It is significant for LIS schools have to be aware of the expectations of employers to train their graduates accordingly. They have to plan, develop and implement market oriented courses in order to gain better employment outcomes for their graduates. Libraries are an important stakeholder for accomplishing such endeavours. Better employability through academia-industry linkage is a key concern for the most institutions of higher learning in Pakistan. Educational institutes and the job market usually lack in common understanding about the generic and technological competences of graduates.

Now, along with the traditional job market, there are new job avenues available for LIS graduates. Potnis, Regenstreif-Harms, Deosthali, Cortez, and Allard (2016) argued the need for skills among LIS graduates to manage and implement mobile apps in the libraries. The authors identified the core competencies needed for LIS graduates to serve as mobile technology consultants in libraries. They opined that LIS students should be competent enough to select, acquire, design, develop, organise, and maintain mobile apps to better serve their patrons. Al-Daihani (2011) conducted a study about ICT content in LIS programs in the context of Kuwait. Students were found somehow dissatisfied with the ICT resources, facilities and the ICT courses offered. However, they seemed to be satisfied with the ICT instructors. Moreover, faculty members in Kuwaiti LIS schools emphasised on the introduction of job oriented courses through enriched course content and with facilities for hands-on instruction to inculcate ICT skills among graduates.

Singh and Mehra (2013) conducted a study to highlight the status of information technology (IT) skills and competencies being taught at LIS schools in the United States. They identified the specific IT topics that were currently being offered in LIS schools and also pointed out the areas that lack in the curriculum. After compiling a list of IT skills, they then juxtaposed it with the expectations of LIS graduates and employers. Baro (2010) suggested that LIS schools should offer comprehensive practice-based courses to enhance students' digital skills. The schools' curriculum must include comprehensive IT courses including digital library design, preservation, information retrieval, database development, network technology, metadata, developing digital archives and digital conversion technology, e-publishing and copyright management in order to inculcate market oriented skills among graduates.

Tahir (2019) measured the gap between the perceptions of LIS graduates' technological competencies and the expectations of senior LIS professionals through a questionnaire survey. The study found that there is a gap between the perception of LIS graduates and the expectation of their employers. Senior professionals expected from LIS graduates an understanding of Microsoft Office, computer hardware and operating system, institutional repository and online and electronic database searching techniques for scholarly literature. Furthermore, the skills of research tools such as Endnote, Zotero, Turnitin along with integrated library systems were also required in academic perspective.

Diversity of information formats have put the traditional services of libraries and skills of information professionals in the challenging scenario. In the current information environment, LIS schools should design market oriented courses. Summers, Oppenheim,

Meadows, McKnight, and Kinnell (1999) predicted the future direction of information science along with its historical development. They recommended that LIS as an academic field should revise its original goals, functions, and programs to compete with other relevant fields such as computer science, IT, and knowledge management.

Tanloet and Tuamsuk (2011) argued that the LIS professionals should adopt emerging technologies to meet the needs of demanding users. The study identified the eight areas of key competencies among future Thai LIS professionals through a survey questionnaire from faculty members of LIS schools and professionals from university libraries. It identified core competencies including knowledge of information profession, information resources, IT, information services, user studies, and continuous professional development for lifelong learning. The study also indicated that in order to survive in a competitive job market, new information professionals should have the following skills: user services, communication, marketing, teaching and training, conceptual thinking, decision-making and planning.

Local literature established that LIS employers were not satisfied with the knowledge and skills of the LIS graduates (Mahmood, 2012; Tahir, 2019; Warraich, 2008; Warraich & Ameen, 2011). Due to a rapidly changing information environment, the LIS professionals' jobs had become more perplexing than ever before as the technologies and skills rapidly became obsolete. LIS schools need regular feedback from the job market to cope with this pace and make changes in their courses. This trajectory was investigated from the employers' views being the real evaluator of the LIS schools' products. This study identified ICT competencies for LIS graduates that would be helpful for better job outcomes. Moreover, the identified ICT competencies should be included in the curriculum of LIS schools in Pakistan.

Research Questions

The key objective of the study was to explore the ICT competencies of LIS graduates through the lens of the library employers. The following research questions were formulated according to the objectives:

RQ1. What are the major challenges being faced by libraries to find competent employees?
RQ2. What are the expectations of the library employers about the core ICT competencies of LIS graduates?
RQ3. What is the role of LIS schools' curricula to develop these competencies among LIS graduates?
RQ4. Who is responsible to develop ICT competencies among the LIS professionals?

Research Design
The study employed the qualitative research design based on the phenomenological approach. It is a subjective design that leads to explore the phenomena under study from the participants' perspective. The phenomenological approach was most suitable for this study as it aimed to investigate what the library employers perceive and expect as the most needed ICT competencies among LIS graduates for their better employment outcomes. This approach emphasises on the human perceptions, their lived experiences and collective opinion. To get relevant data, a purposive sampling technique was used. The data was collected from senior LIS professionals and academicians/faculty who had the experience to conduct interviews for hiring early career LIS graduates or be a part of the interview panels as subject specialists. Eleven senior library professionals and academicians working in the public and private sector universities in Pakistan participated in the study. The participants

belonged to diverse organizations including IT, management, education and general universities. Keeping in view the objectives of the study, an interview guide was developed on the basis of literature. The researcher followed the ethical guidelines to conduct the interviews with senior library professionals and academicians. Semi-structured interviews (20-35minutes) were recorded with prior permission of participants who voluntarily participated in the study. The semi-structured interviews were conducted in order to identify the common experiences of senior library professionals and academicians with regards to challenges and expectations regarding core needed ICT competencies of early-career LIS graduates for their better employment outcomes. All 11 interviews were transcribed and coded. Participants were labelled as R1 to R11 to keep anonymity. All files were imported into Nvivo software. To ensure validity and reliability, each interview was thoroughly read and coded. After completing the coding scheme, the relevant sub-codes were emerged from broad themes and pattern. The average time of each interview was 25 minutes. Transcribed data were organised and analysed through NVivo software.

Findings

There were11 senior library professionals and academicians who participated in the study who had experienced hiring LIS professionals. The data showed that the eight participants were male and three females which showed the dominance of males in higher professional positions. All the participants held higher professional degrees (more than sixteen years of education), as six had MPhil degrees, four had PhDs and one faculty member had post doctorates from the United States. The professionals from public sector institutions had four MPhil, two PhDs and one post doctorate. However, two PhDs and two MPhil degree holders were from the private sector.

Table 1: Senior Library Professionals' Demographic Information (n=11)□

Respondents' code	Gender	Age	Qualification	Designation	Professional Experience	Organization Sector
R1	F	40	MPhil	Assistant Professor	16	Public
R2	M	46	MPhil	Director inf. Services	21	Private
R3	M	33	MPhil	Director libraries	10	Private
R4	M	36	MPhil	Librarian	12	Public
R5	M	43	MPhil	Manager Scientific inf.	19	Public
R6	M	44	Post Doc	Associate Professor	20	Public
R7	M	46	PhD	Library Manager	23	Private
R8	M	54	PhD	Chief Librarian	30	Public
R9	M	63	PhD	Director Libraries	35	Private
R10	F	46	PhD	Chief Librarian	22	Public
R11	F	39	MPhil	Librarian	18	Public

The participants' age lied between33 to 54 years and they have good professional experience as ranging from 10 to 35 years.

RQ1. What are the major challenges being faced by libraries to get the best and the brightest candidate?

Figure 1 shows the key issues faced by library employers in different public and private sector universities to hire competent LIS graduates. The major challenge identified by the library employers were: less skilled professionals; poor written and verbal communication skills followed by low level of motivation and small salary packages.
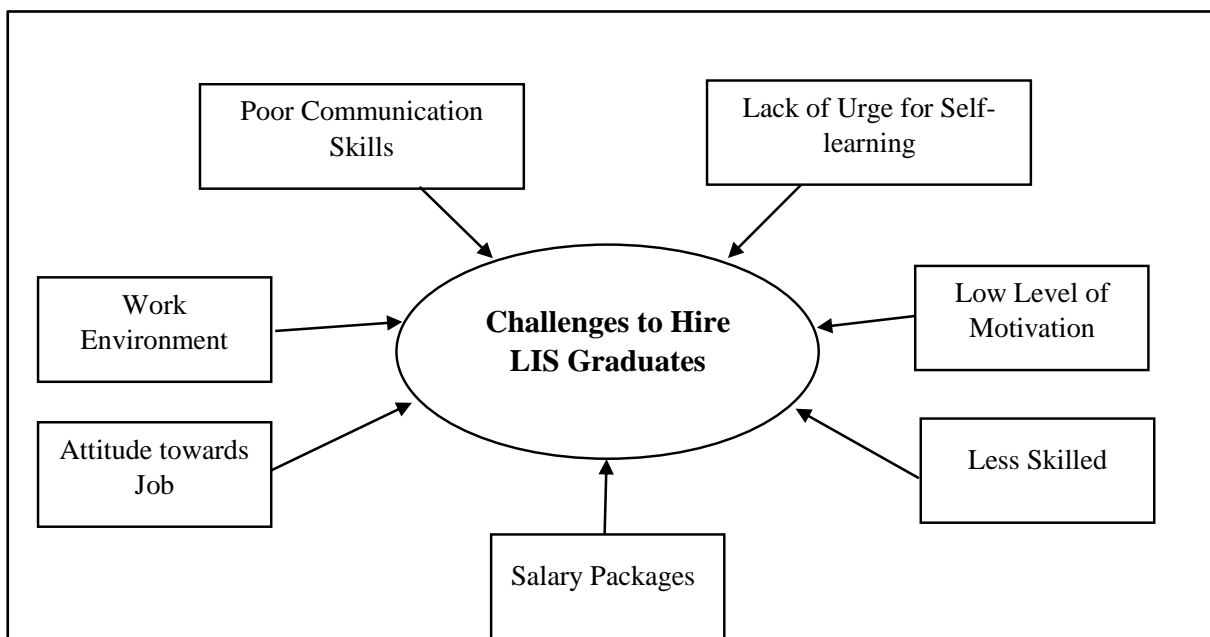

Figure 1: Major Challenges Faced by Library Employers to Hire LIS Graduates

Almost all the respondents were of the view that it was hard to find competent graduates for entry level jobs. They opined that the weak intake of such graduates at LIS schools might be the potential reason for it. R2 was concerned about the perception of higher authorities in private sector regarding the hiring of IT graduates due to weak presentation and digital skills of LIS graduates. One senior professional from the private sector complained, "Due to LIS graduates poor communication and presentation skills, it's tough for us to justify them in interviews" (R7).

The majority of the respondents (n=8) considered LIS graduates' poor written and verbal communication skills as another challenge in their hiring. Four respondents highlighted that the graduates lack in verbal communication skills resulted in poor performance in job interviews. One respondent stated that "the graduates' poor speaking and presentation skills lead to low level of confidence and self-esteem" (R3). Another respondent suggested that there should be more courses for personality grooming and develop sharpness through cognitive skills among LIS graduates. The respondents also agreed (n=5) that the graduates lacked in written communication and that was a hurdle for them in getting good professional positions. R1 mentioned that "good communication skill is a key to success in professional career that support you to negotiate and convince your peers and higher authorities".

Moreover, six participants thought that the LIS graduates' attitude and their low level of motivation was another challenge. One respondent spoke that "attitude of an employee is more important than his/her skills". Another respondent lamented that "LIS graduates are not eager to learn new skills and techniques and want secure jobs in public sector institutes". Three respondents opined that LIS graduates have poor working and learning skills.

Small salary packages at entry level jobs is a challenge to get and retain skilled graduates. Especially in the private sector, employers exploit graduates in terms of salary and working hours due to the availability/supply of graduates with mediocre skills. Though, the graduates with specialized technical skills have a small candidate pool in the interviews (R2).

There are also some other factors including the lack of urge for self-learning, attitude towards job, work environment, non-professionals experts for job description and nepotism, respectively.

RQ2. What are the core ICT skills that library employers expect from LIS graduates for their better employment outcomes in the prevailing digital information environment?

Figure 2 shows the core ICT skills that library employers expect from LIS graduates for their better employment outcomes. They identified the following core ICT skills: Basic tools of Microsoft Office; searching skills; social media awareness; basic knowledge of integrated library systems; User oriented smart phone use. A few respondents also pointed out that LIS graduates should be able to handle hardware and troubleshooting; develop technology plan for the library; explore discovery services and tools; well versed with MARC and copy cataloguing; know about citation management tools, and have database management skills respectively.
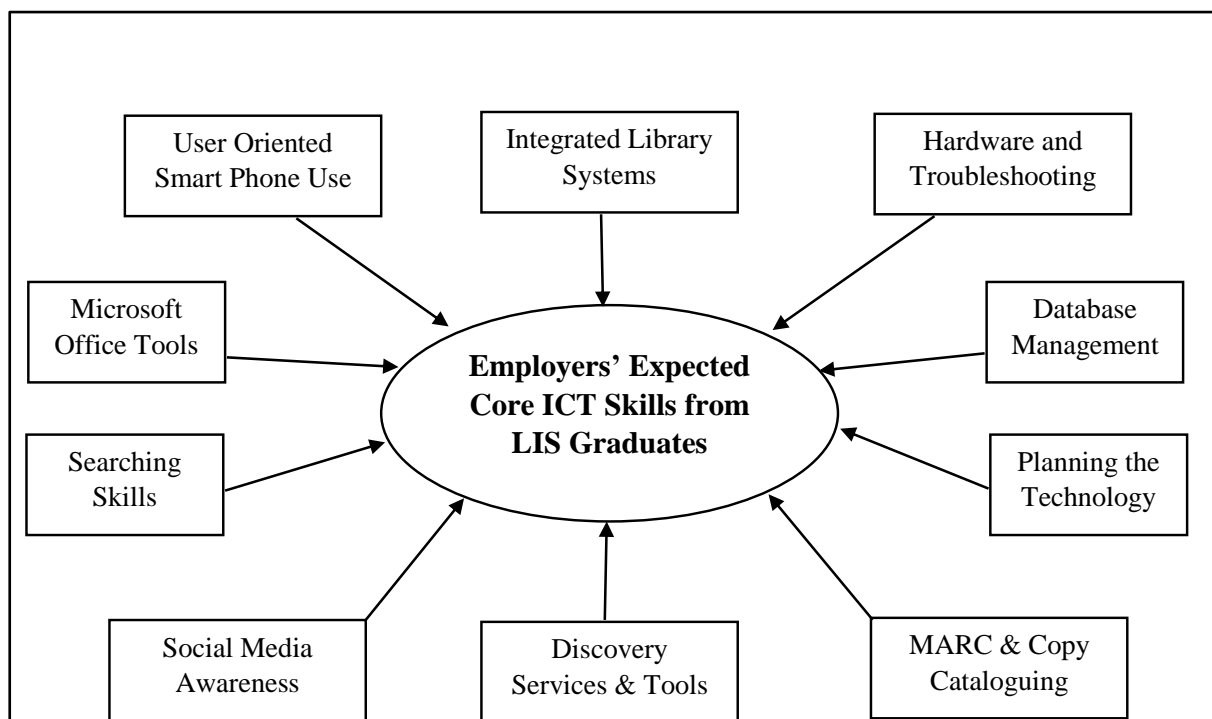

Fig. 2 Core ICT Skills Library Employers Expect from LIS graduates

Following were the core ICT skills identified by senior professionals for LIS graduates.

- Basic tools of Microsoft office
- Searching skills
- Knowledge of integrated library systems
- Social media awareness
- User oriented smart phone use
- Discovery services and tools
- MARC and copy cataloguing
- Handling hardware and troubleshooting
- Planning the technology
- Database management skills

All the respondents unanimously agreed that LIS graduates must have knowledge of Microsoft Office and be well versed with its different features. One respondent viewed that "they should be able to explore the advance feature of Microsoft Excel and Access to better understand library systems" (R11). Another respondent said that the graduates should know the features of Microsoft Word and PowerPoint for effective communication and presentations in the organization (R2). P4 said that the "graduates opt smart working skills by using MS Office". One respondent said that graduates must have basic ICT knowledge of library systems and to use ICT tools (P1).

Most of the respondents (n=9) were of the view that the graduates must know about online advanced searching skills to facilitate users efficiently. They highlighted that effectively searching skills and knowledge of online databases was the core competency needed in the information environment. One respondent spoke that "graduates should have advanced skills to search and find scholarly information" (R8). Another interviewee emphasised the need of graduates' familiarity with search engines, their purpose and algorithms to select an appropriate platform for searching (R7). R5 opined that the graduates should know about online sources and their availability.

Respondents opined (n=7) that the graduates should be aware about the integrated library systems and open system software. They perceived that the graduates were not good in automation. One respondent stated that the graduates must comprehend and have working experience of any ILS its advance features (R7). Another respondent focused on the familiarity of digitization tools along with ILS. One of the interviewees was of the view that LIS graduates lack in-house IT expertise required to implement library management system. They were also dependent on expensive IT consultants for IT related issues of their libraries. One respondent opined the "lack of graduates' technological skills subsequently affects patrons' satisfaction with library services". One respondent recommended that LIS graduates should be trained as technology managers and be able to plan technology and manage database.

In information technology, changes and developments are swift and information professionals need to be proactive and curious learners to cope with it. There is a concept of solo librarian in many libraries and LIS professionals should have to master all trades. The respondents suggested that "LIS schools should have model library that serve as an ideal laboratory (R4)".

RQ3. What is the role of LIS schools' curricula to develop ICT competencies among LIS graduates?

The role of the curricula is important for graduates' training and learning. Technological diversity is needed in our curricula to prepare graduates according to market need. Respondents stressed (n=6) the need of modern and well-designed curricula of LIS schools for better job outcomes of their graduates. However, four respondents highlighted the proper implementation of curriculum. The significance of faculty, technological infrastructure and practice can't be denied to incorporate technological content into learning. One respondent said that "faculty should opt innovative teaching methodologies to get graduates learned new technologies and skills" (R3). One respondent stated that "technologies skills were not inculcated in their learning due to lack of practice" (R9) another stated that "practice is more important than course content" (R1).
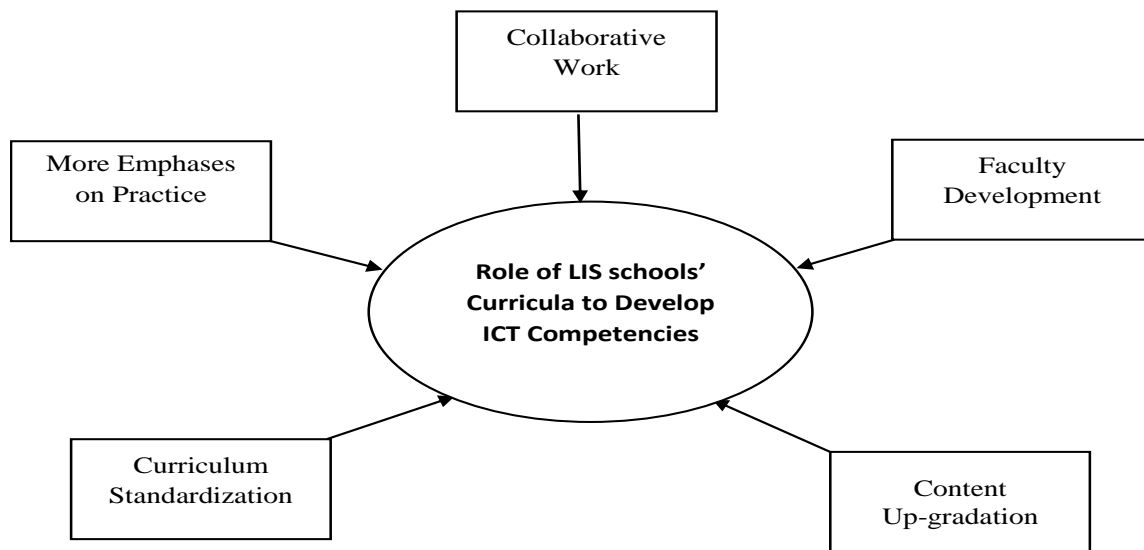

Figure 3: Role of LIS Schools' Curricula to Develop ICT Competencies among LIS Graduates

Following themes and patterns emerged from the interviews regarding the role LIS schools' curricula to develop ICT competencies among LIS graduates.

- More emphases on practice than theory
- Curriculum standardization among schools
- Content upgradation with outcome based learning
- Faculty development needed
- Collaborative work assignment to lessen theory and practice gap

Respondents recommended periodic revision of IT course contents in curriculum in the light of gaps identified by practitioners. LIS schools should organize lectures of senior professionals for graduates to nurture the knowledge sharing and collaborative work environment. One respondent opined that curriculum should be outcome based. They suggested that information storage and retrieval and presentation skills would be improved by changing the intake criteria of LIS schools. They also recommended curriculum standardization among LIS schools.

RQ 4. Who is responsible to develop the emerging ICT competencies among LIS professionals?

Following are the four stakeholders responsible for CPD of LIS professionals as identified in the study.

- Self-attitude of professionals/ willing to pay and learn for themselves
- LIS school/ short course offered by library schools in summer
- Organizational responsibilities
- PLA with the collaboration of school (own association)

Resource sharing neither exists among libraries nor among library schools. It is not only missing amongst academician and practitioners but also among different professional organization. There are no coordinated and planned efforts being made by any stakeholder to develop ICT competencies among LIS professionals. Only random training programs are being organized by different professional associations. One respondent complained that professionals with good skills were hesitant to share their time, skills and resources. There should be incentives and travel grants for professionals to participate in different CPD activities.

Conclusion

It can be concluded that Pakistani LIS schools' curricula are ICT driven and following global trends. Education and training empowers LIS professionals to unleash the potential of emerging technologies. Nevertheless, ICT's content into the curriculum of LIS schools has not been fully incorporated due to a lack of expertise and infrastructure. It is noted that faculty development programs are significant for proper implementation of curricula. ICT competencies including proficiency in Microsoft Office, searching skills, social media awareness, knowledge of integrated library systems and familiarity with user oriented smart phone use are essential. The role LIS schools' curricula is considered vital to develop ICT competencies among LIS graduates. They opined that curricula should have more emphasis on practice rather than theory, standardization among schools, collaboration among different stakeholders and regular content upgradation with outcome based learning. The findings also suggested the need of faculty development programs for proper implementation of curricula. Moreover, the respondents perceived that the attitude and willingness of LIS professionals towards their learning and developing emerging ICT competencies were important followed by the role of LIS school and national and regional professional associations.

This study suggested that there should be collaboration among LIS schools, professional associations and libraries (potential employer of LIS graduates) for their continuing professional development. Technological changes should incorporate in curricula according to the feedback from the job market. There should be more focus on practice in technology related courses It is important to develop their learning and adopt a flexible attitude that would be receptive to new trends in the field.

In Pakistan, the university educational programs have been focusing on learning outcomes instead of employment outcome. This study provides an understanding of needed ICT competencies among LIS graduates in the job market. This study took data from employers of eleven leading academic institutions from Pakistan from a didactic to a constructivist approach. The findings of the study may not be generalized to include other developing countries.

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