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Research paper

Evaluation of Graduate Students Employability from Employer Perspective: Review of the Literature

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Abstract

Graduate employability is a critical issue in Higher Education. Employers are expecting not only the subject knowledge from the students to compete with the current industry demands, but also additional skills to face corporate battles and challenges. The aim of this research is to identify the skills demanded by the employers and to incorporate them in the learning outcomes of higher education. This research aims to review and analyses all the papers published from 2010 until now regarding the evaluation of graduate students from employers' perspectives. This subject has been rarely touched in literature and needs more focus regarding to its importance for both education institutions and employers. Papers were collected from different databases and carefully analyzed by the authors. Different classification methods were done. The results were analyzed. The results indicate that there is a gap between the learning outcome and the employability skills.

Keywords: *Employability skills; Graduate performance; Graduate skills; Employers expectations; Emploers perspictives; Higher education; Prformance evaluation.*

1. Introduction

Education is considered as a key of the success and the power in any nation. Education helps to develop the personality of the human and to communicate with others. The transformation process from a student to employee drives the social growth engine and develop the person socially and economically (Kulkarni et al. , 2014). Employability is the ability of an individual to gain employment appropriate to his/her educational standard (Dearing, 1997). Employability is not just about providing the student with the required attributes and techniques to get a respected job or to develop in a career. It can be described as a set of achievements and attributes that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy (Yorke, M. 2006).

One of the basic tasks of education is to prepare and provide graduate students with the required skills to meet the needs of the labor market. There is a strong and direct relation between the education and the employment. This relation gained the researchers attention since 1960s. As a result, an increasing number of studies have been published to examine the relationship between education and employment(Cai,2012). The most focus on these studies was to observe the first employment after the graduation. Until 1990s, there was not a huge attention to the movement process from education to the career field. This change in the research can be referred to the use of the work success as an indicator to the quality of the education generally and higher education specifically (Teichler 2009). Since that, the needs of employment were taken into consideration from the universities, educational institutes and students in the teaching and learning processes. Unfortunately, the needs of the career fields are not so clear because of the rapid growth in the labour market. These challenges have induced the researchers to conduct more studies about the evaluation of the graduate from employment perspectives. The results of these studies were diverse and argumentative (Teichler ,2009). Employers are changing perceptions of workers with the same educational qualifications, these views vary according to the traditions, political factors and other factors.

2. Research Methodology

Enhancing graduate employability skills is the key task in higher education. Now a days employers are searching for graduates who are balanced with good academic credentials and possessing soft skills such as adaptability, communication, problem solving and interpersonal skills(1). This emphasis on the skills lead to the importance of recognizing employability skills and encorporating them to Higher Education (2). The employment skills expected from graduates vary by the employment sector, employer and countries.

This paper reviews the employability skills needed for various jobs in different countries based on the existing literature. In order to acheive the purpose of this study different well recoganized electronic libraries were searched such as: Acm Digital library, Science Direct, IEEE, Springer, Emerald and other resouces. The key words which ware used : Employability skills, Graduate performance, Graduate skills, Employers expectations, Emploers perspictives , Higher education and Prformance evaluation. Data collection started from November 2016 until February 2017. Papers were downloaded for the past 10 years and were divided among the authors to read and classify.Atotal of 85 papers were collected from the excitnig litreature. After that, appropriate information were extracted from the papers which

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include: paper name, journal name, publication year, aim of the study, research methodology, context and results. After the preliminary categorization processs the papers which were not relevant to the topic were excluded from the litreatre and we considred only 56 papers for further analysis. We identified that some of the collected papers were not within the scope of our research and hence didnt consider them for further analysis.29 papers were eliminated in the perliminary analysis. The papers resulted after the filtering process were classified based on: skills, industry and country. The collected data were analyzed to come up with the conclusion. The frame work of the research methodology we followed is presented in figure1.

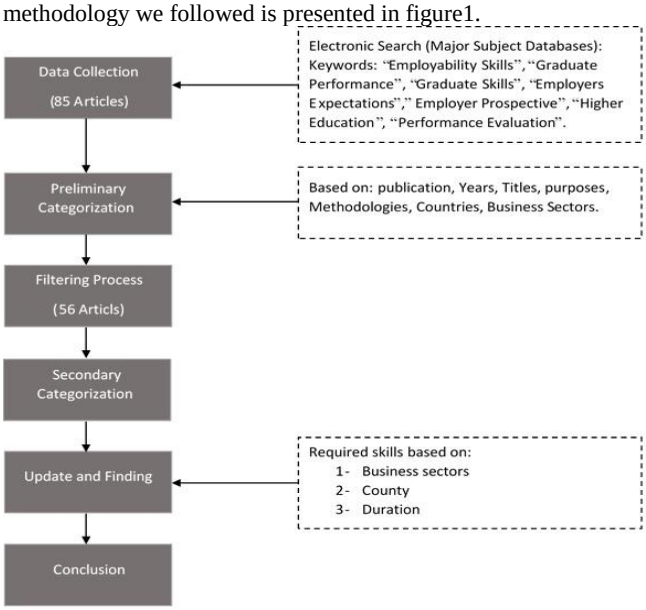


Fig. 1: Research Methodology

The collected papers were classified based on the industry. Table 1 illustrates the classification of papers based on industries

Table 1: Classificaion of papers based on indusries

NO	Sector	Total Papers
1	Tourism/Hote/Hospitality	13
2	Accounting	11
3	Management	2
4	Information and Communication Technology	3
5	Manufacturing	5
6	Construction	16
7	General	6

2.1. Tourism/Hospitality

Tourism industry is one of the worldwide, fastest growing service oriented industry. The key challenge in the tourism industry is to manage with its international and interdisciplinary aspects. To meet with the demands of the tourism , people need to acquire competencies that enable them to cope with the changing circumstances of the business world(2).It seems that graduates are not well prepared and equipped with these skills to satisfy the requirements of employers.

The following studies tried to identify the skills necesary to function in the tourism industry. The Ciara et.al (3) conducted a study amongst employers and students in the Irish hotels and identified the following as the important competencies in this field: customer service, interpersonal skills, professionalism and maintaining ethical standards.The findings reveal the skill gaps exists between the graduate's skills and the expectations of the industry.

Sarah et al (4), conducted a study amongst graduates and employers in Nairobi hotels to determine the expectations of hospitality industry. The major parameters considered for this study are the industry expectation, employee competence, quality and skill gap. The findings say that customer care, multi-skills, communication and level of service expected by the customers are the key skills expected in any hotel irrespective of its classification. Results identified some skill gap and suggest the correlation of industry and training providers to produce globally competitive employees.

Besides the above, Faith et.al conducted a study focused on comparing employers' expectations of employee skills in the tourism industry and the skills acquired by learners in the Culture, Art, Tourism, Hospitality and Sport Skills Education Training Authorities' (CATHSSETA) (5). Results indicate that employers expect higher levels of competence than those which learners in the CATHSSETA program can deliver.

The skills expected by employers in various countries from the tourism graduates are listed in the below table. Even though many skills are identified for this industry, the most important skills expected from a graduate are Communication, Professional Knowledge, language and Management Skills.

Table 2: The skills expected by employers in various countries from the tourism graduates

Country	Skills
Columbia	Leadership , conceptual skills, communication, problem solving , management skills
Jordan	Problem solving, technology, languages and culture knowledge, and leadership skills
Australia	Academic Grades, Adaptability at Work, Computer Skills, Critical Thinking, Decision Making, Events Management Skill, Specific Knowledge , Communication, Organizational Ability , Problem Solving Skills , Relationship Management Skills , Relevant Work Experience
South Africa	Professional knowledge, Operational and Communication skill, IT, HRM, Numeric Skills, Analytical Skill, Team work, Interpersonal Skills
Philippines	Critical Thinking, Problem Solving, Creativity, Passion, Commitment, Teamwork
Taiwan	Leadership, Professional management, Technical skills, professional skills classes, on-campus internship
Spain	Computer skills, responsibility at work, the ability to acquire new knowledge, team working , communication skills, Problem solving
USA	Communication , Conceptual Skills, Analytical Skills, Team Work , Interpersonal
Ireland	Knowledge, Interpersonal Skills

2.2. Accounting

Accounting graduates should possess some desired skills to enable them as the providers of financial information in their profession (6). Recent studies criticize graduates that accounting education does not meet the requirement of the labour market and the needs of employers.

In 2015, Qasim conducted a study in Saudi Arabia to explore the skills expected by Saudi employers from accounts graduates. According to Qasim, accounting profession requires both technical and generic skills to effectively participate in their extended roles in the organizations (6). The findings suggests that critical reasoning and thinking, problem solving and decision analysis, oral and written communication, team working, business ethics, time management, negotiation, planning, computer knowledge and leadership are important for an account graduate.

Meanwhile, another study was conducted in Malaysia to identify the relationship between employers' satisfaction and employability skills possessed by UNITEN accounting graduates (7). The employability skills considered for this study are categorized into technical, functional, communication, organizational and business management skills. The results show that employers are satisfied with the employability skills possessed by the graduates(7).

However, employers have the assumption that all graduates would have good computing skills and with minimum training they can increase their computing ability (8).

The skills expected by employers in various countries from the accounting graduates are listed in the below table.

The skills expected by employers in various countries from the accounting graduates are listed in the below table. The most important skills expected from an account graduate are numerical and inter personal skills, MS Office and communication.

Table 3: The skills expected by employers in various countries from the accounting graduates

Country	Skills
South Africa	Professional skills
Australia	On-campus internship
UK	Numerical Skills, transfer of knowledge and education
Germany	Team Work
Taiwan	Assessing the scale's psychometric properties.
Malaysia	Technical and Functional Skills, Communication Skills, Organizational & Management Skills
New Zeland	Accounting Skills, Technical & Non-Technical Skills, Interpersonal Skills, Communication Skills, MS Office, Good Typing Speed
Saudi Arabia	Ethics, Leadership, Negotiation, Communication, Critical Reasoning & Thinking, Problem & Decision Analysis, Team Working, Time Management, Computer Skills

2.3. Management

Today's employers are looking for graduates not only with specific knowledge but with the skills to act smart and handle the situations intelligently. Therefore, only graduates with better competencies can survive in the job market. Even though the graduates scored excellent result in their qualification, they are lagging in competency skills needed for the employment. Many studies were conducted to identify the competency skills needed for business graduates.

In 2012, S.Ken et al. conducted a research to explore the relationship between employers' perception about the important competencies in Malaysia banking industry and the actual performance of graduate students. The skill set considered for this study are resourcefulness, written and oral skills, honesty, diligence, knowledge-acquiring, teamwork, computer skills, value-improving, adaptability, problem-solving and dependability. Findings reveal that graduates are well trained in their areas of specialization but unfortunately they lack the soft skills(1).

Another study is conducted in Kuwait to explore the level of importance of employability factors by employee's and academicians (9). Employability factors considered are the graduate's knowledge, soft skills, personal abilities and working with groups. The results revealed that the curriculum has to be developed to respond to the markets needs.

According to Herath & Ranasinghe, ICT skills, English language proficiency and the applicability of practical knowledge are most important for business graduate (10).

The skills expected by employers in various countries from the management graduates are listed in the below table. The most important skills expected from a business graduate are Specific Knowledge, Management Skills, Diversity Awareness, Global Understanding Ability, Personal Traits and Computer Skills.

Table 4: The skills expected by employers in various countries from the management graduates.

Skills Expected in Management Sector	
Country	**Skills**
Malaysia	Communication, Specific Knowledge, Honesty, Adaptability, Resourcefulness, Teamwork Ability, Diversity Awareness Ability, Global Understanding Ability, Numerical Skills, Problem-solving Skills, Computer Skills, Evaluation Skills
Bangladesh	Management Skills (Planning), Technical Skills (Problem Solving & Analytical Skills) Communication Skills, Personality Traits(Honesty, Positive Attitude)

2.4. Information and Communication Technology

Employability skills focus on graduates' abilities to adapt with the environment and make use of their skills to create resourceful educational outcomes which leads to employment(11). According to Saad and Majid, the most important skills demanded by the employers are problem-solving, tool handling competency, team working and presentation skills. The skills expected by employers in various countries from the ITC graduates are listed in the below table 5,

Table 5: The skills expected by employers in various countries from the ITC graduates

Country	Skills
Malaysia	Problem Solving, Tool Handling Competency, Presentation Skill, Team Working
South Africa	Personal Attributes, Creative & Critical Thinking, Communication Skills, Presentation Skills Cultural Sensitivity, Self Management Ability, Team Work, Problem Solving Skills

2.5. Manufacturing

According to Baqadir et al , Kingdom of Saudi Arabia has a serious shortage of skilled Saudi workers especially in the private sector(12). The findings highlight the skills gap centres on three factors: work ethics, specialized knowledge and generic skills.

In 2015, (13), conducted a research among Russian manufacturing enterprises and finds that employers have lower understanding of their needs and skills requirements for the future. However the most important competences has to be considered for the curriculum developments are professional skills, technical skills and systemic thinking (13).

Table 6: The skills expected by employers in various countries from the Manufacturing Sector

Country	Skills
Saudi Arabia	Work Ethics, Specialized Knowledge, Generic Skills
Russia	Systematic Thinking, Professional Skills, Communication Skills , Adaptively
USA	Basic Skills, Computer Competency, Interpersonal Skills, Problem Solving Skills.
Malaysia	Teamwork skill and critical thinking

2.6. Construction

Many researches have been conducted in the domain of employability skills expected from graduates. Most of the available researches are either general or specific to some industry. In 2013, Philip Acheampong conducted a comparative study to identify the technical skills and abilities expected by the employers in the construction industries in Ghana and Nigeria. The expected technical skills for the construction industry are carpentry, plumbing, masonry, electrical, drafting, welding, and HVAC systems. Result indicated the lack of appropriate technical skills(14)

Table 7: The skills expected by employers in various countries from the Construction Sector

Country	Skills
UK	Time Management, team-working, Communication and leadership, Interpersonal Skills
USA	Estimation, scheduling, plan reading, safety, Interpersonal Skills
Australia	Practical Skills & Knowledge, Pre-graduate work experience, time management
Malaysia	Responsibility, Positive Attitude, Team Work, Ability to work under pressure, Time Management
Sri Lanka	engineering design and construction standards, working attitude, technical and management skills
Pakistan	Knowledge of health & safety regulations, Interpreting contract documents, listening ability, Time Management, Knowledge of building codes and regulations
Ghana & Nigeria	Technical Skills, Business & industry Knowledge, Intelligence, Workplace Value
Canada	Construction acumen, project management and leadership, business acumen, professionalism, and communication.
Turkey	Knowledge, Interpersonal Skills

2.7. General

In the general employers' perceptions of the employability skills like teamworking, communication, leadership, critical thinking, problem solving from graduates, and there were some steps to

the universities can apply such as planning to save effort and time of the students to develop them.

Table 9: General Skills Expected

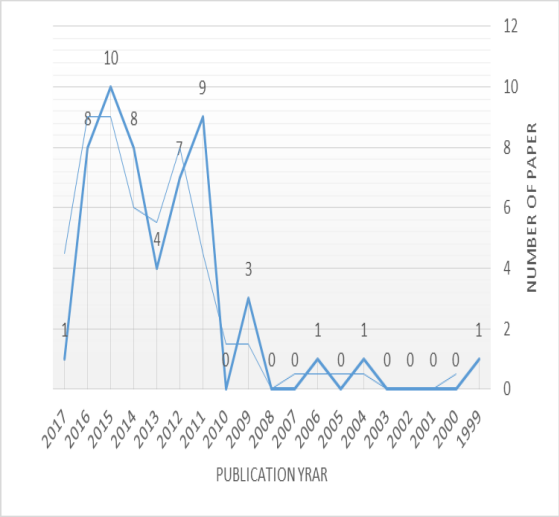
Skill	
Basic Skills	Computer Skills
	Work Ethics
	MS Office
Inter-personal Skills	Communication (Verbal, Non-Verbal, Listening)
	Team Working
	Time Management
	Negotiation
	Problem Solving
	Conflict Resolution
	Leadership
	Adaptivity
	Decision Making
Intra-Personal Skills	Self Awareness
	Self Regulation
	Self Organized
	Motivation
	Honesty
	Empathy
	Discipline
	Social Skills
Specific Knowledge	Professional
	Practical
	Operational
	On-Campus Internship

Table shows the journal we used in our paper

Journal	**Total**	**Year**		
International Journal of Construction Education and Research	3	2012	2016	2017
International Journal of Construction Project Management	1	2013		
Medwell Journals	1		2016	
Procedia Engineering	1	2014		
European Journal of Engineering Education	1	2016		
Recent Technological Advances in Education	1			
Emerald	1			
ACROM Conference	1			
Online Journal	1			
AOSIS Open Journal	1	2014		
Journal of Hospitality Management & Tourism	3	2012		
Journal of European Industrial Training	1	2016		
Journal of Hospitality and Tourism Management	2	2009		
International Finance Corporation	1	2016		
Journal of Hospitality & Tourism Education	2	2014	2015	
Journal of Business Studies Quarterly	1	2015		
Journal of Basic and Applied Scientific Research	1	2015		
Journal of Vocational Education & Training	1	2011		
Trends, Econimics AND Management	1	2016		
Wiley online library	1	2016		
Science Direct	1	2011		
Global Journal of Engineering Education	1	2011		
Journal of Information Systems Education	1	2017		
Jordan Journal of Business Administration	1	2015		
South East Asia Journal of Contemporary Business, Economics and Law	1	2015		
Journal of Information Technology Education	1	2011		
e-Journal of Business Education & Scholarship of Teaching	2	2015	2016	
The International Business & Economics Research Journal	1	2013		
Academy of Educational Leadership Journal	1	2015		
Education + Training	1	2015		
Accounting Education	1	2004		
Higher Education Research & Development	1	1999		
Public Administration Quarterly	1	2016		
South Asian Journal of Management	1	2011		
World Review of Business Research	1	2012		
19th International Conference on Industrial Engineering & Engineering Management	1	2013		
Journal of Career and Technical Education	1	2011		
Asian Social Science	1	2012		
Creative Associates International	1	2015		
Edge Foundation	1	2011		
Graduate Careers Australia Ltd (trading as Graduate Careers Australia)	1	2014		

Table and chart show the number of journal we collected in each year:
Table show that we constraint on our paper in the most recent publication

Years	Number of papers
1999	1
2000	0
2001	0
2002	0
2003	0
2004	1
2005	0
2006	1
2007	0
2008	0
2009	3
2010	0
2011	9
2012	7
2013	4
2014	8
2015	10
2016	8
2017	1



3. Results and findings

The collected papers were classified based on the industry, country and the expected skills from the graduate students. Findings are really interesting. Results indicate that employment sectors expect a set of general skills as well as specific knowledge from every employee. Based on the findings, we have classified these skills into 4 categories such as Specific Knowledge, Basic Skills, Inter-personal, and Intra-Personal Skills. .

Table 9: General Skills Expected

General Skills Expected	
Basic Skills	Computer Skills
	Work Ethics
	MS Office
Inter-personal Skills	Communication (Verbal, Non-Verbal, Listening)
	Team Working
	Time Management
	Negotiation
	Problem Solving
	Conflict Resolution
	Leadership
	Adaptivity
	Decision Making
Intra-Personal Skills	Self Awareness
	Self Regulation
	Self Organized
	Motivation
	Honesty
	Empathy
	Discipline
	Social Skills
Specific Knowledge	Professional
	Practical
	Operational
	On-Campus Internship

2.7. Construction

The construction industry plays a major role in the national economy of every country. But compare to other industries construction industry is little bit complex due to its applied nature. So it can never be confined only to classroom. Rather students should be exposed to the industry. The challenge in construction industry is to upgrade oneself with the constantly evolving technologies, machineries and tools. Due to this the industry expectations from the graduates are continually changing. Existing literature reveals that there are many studies conducted to identify the gap between the expectations of the employers and the perceptions of the students about construction industry in terms of knowledge base and skills essential to work efficiently in the construction industry.

According to Shyamalee , a fresh engineering graduate should have understanding about engineering design and construction standards, working attitude**,**technical and management skills, personal attitude and Engineering Knowledge(15). Similarly Construction knowledge such as estimation, scheduling, plan reading, safety, etc are also very important for graduates (16). Sedighi conducted a study in Australia to indentify the graduate's employer preferences and the factors affecting them. Since the risk factors in construction industry are more comparing to many other industries, graduates are expecting a safe work place, diversity, equal opportunities, work-life balance, gender equity, a workplace with training programs, training in how to use new technologies, high income and Flexible hours. (17). Similarly Saqib identified five most important skills desirable in a construction management firm including knowledge of health and safety regulations, interpreting contract documents, listening ability/ giving attention to details**,** knowledge of building codes and regulations, and time management.(18). (19) reveals that the USA construction industry is looking for graduates who have a deep conceptual knowledge of BIM rather the skilled on using Building Information Modelling software.

(20) used text mining to identify the employer preferences by analyzing the employment data posted on the job portals. The result indicates that the major skills required by all jobs are communication, degree, Team work and MS Office(20). Olawale (2015) also noted that team-working, Communication and leadership are the most sought skills expected by the employers(21).Rohani believes that responsibility, positive attitude and team work are the 3 most important attribute for architecture industry (22). Where as Practical building knowledge and interpersonal skills along with time management are also importance for construction management graduates (23).

The skills expected by construction employers in various countries s are listed in the below table. The most important skills identified are the Specific knowledge to the industry, Time Management and interpersonal and intra personal skills.

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