

# Graduates employability: An exploratory Literature Review

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**Abstract.** This paper aims to present an exploratory literature review from the "Education and Training" journal indexed in Scopus, which has published 99 articles about "Graduate Employability" from 2005 to 2021. After cleaning, classifying and reading these articles with NVIVO; As a result, we have found that authors utilize: quantitative, qualitative, mixed and experimental methodology to address problems related to graduate attributes, graduate employability skills and constructs, enhance employability, self-employability perception and employers perceptions. Also, we have identified three famous conceptual frameworks to measure graduate employability: the Graduate Employability Development model [1], the CareerEDGE model [2] and the Career Management Employability model [3].

## 1 Introduction

Employability has an important impact on the social and economic context. The first definition for employability was the capability of an individual to integrate the job market [4]. Indeed, this integration makes the people more integrate into society and create more value for the economy.

Related to the previous works [4]–[7]. In the 1970s, employability became the attractiveness of an individual for potential employers, appreciated by the result of functional tests, the ability to work and professional behaviours. With this definition, we distingue two meanings of employability. The first one is the labour market requirements, and the other hand, related to personal traits. In the 2000s, the definition of employability will integrate other attributes as mobility and knowledge of the labour market. However, this definition of employability did not make a difference between individuals after and before graduation.

In this paper, we are focusing on graduate and undergraduate employability. We want to explore the topics and the research methodology followed to study the population. We chose the "Education and Training" journal to elaborate this exploratory literature review.

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## 2 Graduate employability

Graduate employability can be defined as the compilation of a series of soft and hard skills and abilities that a graduate can obtain to achieve and meet a desirable job requirement and succeed in his/her career [8]–[12]. Based on the related works that primarily started from the 1990s, we can separate this series of skills into two categories :

- Category 1: Guilbert et al., 2016 and Tholen, 2014 [13]–[14], propose that employability combines interior and exterior factors. The internal factors include personal knowledge and job skills, such as technical and team working skills, while the external factors include the labour market requirement.
- Category 2: Yorke and Knight, 2007, Tholen, 2014, Finch et al., 2013 [14]–[16], present a set of skills related to individual ability and a collection of competitive skills.

The table below gives an overview from literature review of the graduate employability dimensions :

**Table 1.** "Graduate Employability" factors [12]

Year	Authors	Dimensions
2003	Weligamage and Siengthai, 2003 [17]	Communication Skills, General Knowledge, Personality, Computer and IT skills, Verbal Communication skills, Realistic experience and Educational Background
2005	McQuaid and Lindsay, 2005 [6]	Personal and Social Attributes, Leadership Skills, Communication Skills and Teamwork Skills
2014	Paadi, 2014 [18]	Teamwork, Communication, Analytic & Critical Thinking and IT skill
2016	Liyanage et al., 2016 [19]	Graduates' realistic knowledge, Logical ability, Dedication to work, communication & IT skills, Management Skills and Positive Attitudes
2016	Ambepitiya, 2016 [20]	Academic Knowledge, Soft, Practical and Technical Skill
2020	Jayasingha and Suraweera, 2020 [21]	Academic Performance, Technical Skills , Communication Skills, Personality, Leadership & Motivational Skills; and Teamwork & Problem-Solving Skills

### 3 Methodology

To realize this exploratory literature review focusing on "Graduate employability", we use "Scopus" as a scientific database and formulate the requests bellow (Table 2) :

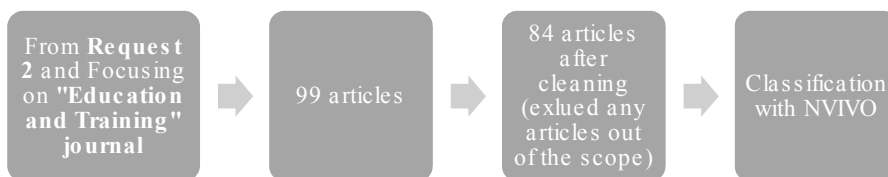
**Table 2.** Search Request about "Graduate Employability" on "Scopus".

	Request (Keywords and operator)	Top 3 sources titles	References by journal	Total References
1	"Employability"	<b>Education And Training</b>	<b>125</b>	9465
		Higher Education Skills And Work Based Learning	108	
		Studies In Higher Education	78	
2	<b>"Employability" and "Student"</b>	<b>Education And Training</b>	<b>99</b>	<b>3616</b>
		Higher Education Skills And Work Based Learning	94	
		Studies In Higher Education	52	
3	"Graduate Employability"	<b>Education And Training</b>	<b>32</b>	728
		Higher Education Skills And Work Based Learning	24	
		Industry And Higher Education	23	

As a result, we found more than 9000, 3000 and 700 references from requests 1, 2 and 3, which testifies the subject's importance. From these results, we found the classification by journals as presented in the table above.

To elaborate this literature review, we have chosen to work from request two and focusing on the publications of the "Education and Training" journal that regroup 99 articles. Indeed, ["Education and Training"](#) (ISSN:0040-0912) is a peer-reviewed journal, created and indexed on Scopus from 1959 (62 years) and also by Web of Science (in Social Sciences Citation Index), published by Emerald. This journal has published 556 Issues (more than 3000 articles), from volume 1 to 63 (on 2021), and his has H-index is 65. His topics: Social sciences, Education, Management.

From the corpus created from this journal, as previous works about literature review on employability [22], [23], we have processed this literature review by NVIVO. Figure (Fig.1) below summarize the steps of this exploratory review :

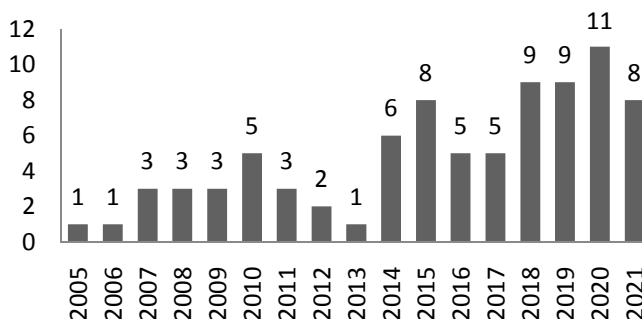


**Fig. 1.** Processing steps to elaborate an exploratory literature review on "Graduate Employability."

## 4 Results and discussion

### 4.1 Meta-analysis :

From the corpus of "Education and Training" articles concerning "Graduate Employability", we found that the publication in this topic starts from 2005, the first peak was achieved in 2010. Also, we observe that after 2014 the number of publications increases considerably. In 2020 the number of publications was doubled. The figure and table below give more information about the publications.



**Fig. 2.** Publication years in the corpus

**Table 3.** Publication description.

Journal	Period	Total	Mean	Min	Max	Median
Education and Training	2005-2021	83	4,88	1 (2005)	11(2020)	5 (2010)

Concerning the citation count, we observe that this journal has high citations, that why it is in the first Quartile (Q1) according to the Scopus classification. The most cited article is from Pool L.D and Sewell, P (ref), about "CareerEDGE Model", one of the measurement models of Graduate Employability.

**Table 4.** Top 5 of most cited articles.

Title	Authors	Year	Volume, Issue, pages	Citation
The key to employability: Developing a practical model of graduate employability [2]	Pool, L.D., Sewell, P.	2007	49(4), pp. 277-289	424
Connecting enterprise and graduate employability: Challenges to the higher education culture and curriculum? [24]	Rae, D.	2007	49(8-9), pp. 605-619	189
Effects of business internships on job marketability: The employers' perspective [25]	Gault, J., Leach, E., Duey, M.	2010	52(1), pp. 76-88	131
Developing employability skills: Peer assessment in higher education	Cassidy S.	2006	48(7), pp. 508-517	128
Forms of graduate capital and their relationship to graduate employability [26]	Tomlinson, M.	2017	59(4), pp. 338-352	107

## 4.2 Topics analysis :

The authors of the papers analyzed in this study use keywords to define and classify their works. From these keywords, we can make a cloud word that dresses the occurrence and co-occurrence of the words in the corpus. The figure below represents the cloud word of the authors' keywords :



**Fig. 3.** Publication years in the corpus

As we can conclude from the figure above, the most important topics faced by the authors are :

- Employability skills
- Graduate attributes and skills
- Vocational graduates
- Employers perception
- Self-Perceived Employability (SPE)
- Mismatch between graduates skills and Labor markets requirements
- Internship
- Time management
- Teamwork
- Soft skills/Technical skills
- Numeracy
- Entrepreneurialism/Entrepreneurship
- Students/employers attitudes
- Communication
- Project learning
- Engagement learning
- Work-Integrated Learning (WIL)
- Attitudes and personal traits of graduates

### 4.3 Methodologies analysis :

This review found that the authors follow multiple research methodologies and approaches from both descriptive and experimental catalogues. The quantitative approach is used in 39 references, and in 24 references, the authors use the qualitative approach. Also, the authors of 10 references use mixed methods. However, just four references from the "Education and Training" use experimental/quasi-experimental methods. The table below summarizes this situation, with some indication about sampling and data analysis technics.

**Table 5.** Research Methodologies, approaches, sampling and data analysis techniques.

Methodology	Approaches	Instrument	Population	Sample size		Data analysis technics	Ref.
				Min	Max		
Descriptive	Quantitative	Questionnaire	Undergraduates, graduates, employers, managers, academics	37	1502	Regression, Classification, SEM, PLS, Hypothesis Tests, Multivariate analysis	39
	Qualitative	Interviews, Focus group		6	86	Thematic analysis	24
	Mixed	Questionnaire, Interviews, Focus groups, E-mail discussions, Writing comments		12	122	Exploratory Factor Analysis, critical incident technique	10
Experimantal/Quasi-experimental		Instructional activities, prototype interventions, work-based learning modules, experiential learning framework	Students, Experts	30	120	Case study analysis	4
Conceptual							6
Total							83

We can conclude from this table above: 1) the sampling of all the quantitative works starts from 30 individuals to more than 1000. 2) The authors use hypothesis tests (parametric and no parametric), regression or multivariate analysis as occurrent data analysis technics. 3) Students and Experts are the individuals concerned by all the empirical studies.

## 5 Conclusion

This paper present an exploratory literature review from the "Education and Training" journal. We have pointed that authors utilize: descriptive and experimental methodology to address problems related to graduate employability, sometimes from the employers' views or students side.

Also, from conceptual studies, we have deduced three famous conceptual frameworks to measure graduate employability: the Graduate Employability Development model [1], the CareerEDGE model [27] and the Career Management Employability model [3].

However, we faced difficulties with identifying the population characteristics and sample size concerning experimental/quasi-experimental studies during this exploratory literature review. As a perspective, we will include more references to conduct a systematic literature review and prepare our empirical study with mixed methods with Moroccan Engineering Students.

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