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INTERNSHIPS, SKILLS AND EMPLOYABILITY: MAPPING THE FIELD THROUGH A BIBLIOMETRIC ANALYSIS

Abstract. The paper provides an innovative approach of the less studied interactions between internships, students' skills, and employability, relying on a bibliometric analysis. Students' skills are enhanced through internship, which contributes to increasing employability. We analysed: the dynamics of the number of studies for the time framework 2010-2021, the geographical distribution, the links between the keywords and the number of citations, using VOSViewer. The papers were selected from Web of Science and Scopus, that seem to be rather complementary: in Web of Science the majority of publications are conference volumes (and with Open Access), in Scopus journals predominate (mainly with restricted access). Also, there is a shift of the research interest from education to labour market related concepts, such as "work experience", "graduate employability", "performance".

Keywords: Employability, Internship, Skills, Bibliometric analysis.

1. Introduction

In recent years, increasing employability among the young graduates has become a social and economic issue of high interest for managers and business environment, as in many fields the shortages of labour and the demographic

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constrains are rapidly changing the quality and quantity of the labour force. In this paper, in line with the existing evidence, we address the issue of employability by considering education as the main factor for increasing it. However, we focus on one educational instrument with high impact on developing specific skills for matching the labour market needs, namely internship programs. These play the role of developing the practical skills of graduates and therefore contribute to increasing students' employability (Narayanan et al., 2010). Despite the increasing popularity of internship programs, little research investigating their effectiveness or their effects has been conducted so far. The effectiveness of the internship programs is explained by the involvement of the three categories of actors, with specific roles: the university is involved in the process of organizing internships. The organizations involved in the internship programs provide a coherent framework for students to become familiar with the responsibilities and tasks at the workplace and acquire new practical knowledge. By simultaneously interacting with academia and business through internship, students will develop their professional skills, increasing the likelihood of being employed.

The studies in which competencies are correlated with success and employability are limited. Therefore, a meta-analysis would be adequate for revealing the relationship between internships, skills and employability.

The purpose of the present paper is to provide a bibliometric analysis of the existing papers which analyse the interaction between three highly relevant concepts: internships, students' skills, and employability, in an attempt to better understand the interest and the relevance of this association. More specifically, we plan to analyse: a. the dynamics of the number of studies for the time framework 2010-2021 (until 17th of September 2021); b. the geographical dispersion and distribution according to the field of study of the documents resulting from the search in the scientific databases; c. the links between the keywords mentioned in the documents considered in the analysis; d. the relevance and impact of the studies in the field, as resulting from the number of citations.

Bibliometric methods have increased in popularity, as they are able to provide a detailed quantitative perspective of the scientific literature existing in various fields, as well as the research trends for specific topics. In order to meet our research goal, the two most important scientific databases were considered, Scopus and Web of Science (WoS). Therefore, our paper has a novel methodological approach, compared to the standard one in the field that generally considers the results from only one database (DB). Starting with the hypothesis that the two competing DBs are complementary, we expect to find both overlap and complementarity in the results provided by the two DBs. The novelty of the paper also resides in the object of the research, the interaction between internships, students' skills, and employability. Each topic receives attention independently, however the increasing inter-correlation is emerging but still less studied (Marinaş et al., 2021).

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2. Literature review
2.1. Evidence on skills as factors for enhancing employability

Employment opportunities in the labour market are significantly influenced by the knowledge, skills and competences acquired by those who intend to work. Employment skills enable people to get a suitable job, and at the same time to develop their careers in the context of continuous and rapid social and technological change (Barnett, 2006). In the Romanian context, Gora et al. (2019) reveal that the educational process directly and positively influences the chances of employment on the labour market, which means that universities need to adjust their content in order to adapt to the needs of the labour market. Authors such as Kaiser-Jarvis (2018), Roman & Paraschiv (2019) focus on the development of the international competencies of students as they are trained for an increasingly international and global labour market. The authors argue for the need to develop global competences, as future graduates should be prepared to work in a complex, globalized world. Hwang & Kwon (2019) also explore the subject of competencies as enhancers of employability at university level. They explore ways in which the curriculum can be improved in order to meet the objective of high employability of students and graduates based on the correct diagnosis of their competencies. Based on the above, it can be concluded that the employment opportunities of students or graduates depend to a large extent on the knowledge acquired and skills learned over time. The higher education institution directly influences the employability of students both through the formal education it delivers, as well through well designed and implemented internship programs.

2.2. Evidence on the development of employability through internship programs

Despite the growing popularity of internships, surprisingly little research has been conducted in order to investigate the factors that influence the success of the internship programs. Since there is consent that internship represent learning tools for students which help them to fill the gap between classroom learning and the business practice, it is important to understand what aspects of these experiences make them very valuable. The research of Marinaş et al. (2018) reveal five factors - namely Job arrangements, Mentorship and employability benefits, Learning content, Academic supervision, Bureaucracy and accessibility - which influence the quality of internship programs. Professional experience represents a major element in the development of professional skills and therefore a trigger of employability. Embedding practical experience in the academic curriculum is no longer a new feature of higher education programs. In this context, as Holmes & Miller (2000) state, a diploma is no longer sufficient to secure a job because employers are looking for a range of additional ingredients which prove that the graduate has not only acquired academic skills, but also developed the key skills that will ensure his success and a rapid transition from education to employment. Thus, there is a vital link between proof of knowledge and experience in the field.

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Moreover, Holmes & Miller (2000) consider that "Graduates with less sought after qualifications and experience consequently need to make a realistic assessment of their skills and competences and the options available to them and find ways of maximizing their potential. The onus is on employers who require graduates and undergraduates to develop these, by working in collaboration with higher education institutions." (Holmes & Miller, 2000, p.655). In a recent study, Nghia & Duyen (2018) analyse the internship-related learning outcomes and their influential factors. From students' perspective, internships helped them consolidate the existing knowledge and skills, further develop relevant professional skills, shape their career paths, and change their learning attitudes and behaviours.

To conclude, the abovementioned studies converge and identify a significant positive impact of internship programs on professional and personal development of students and implicitly their employability.

3. Methodology
3.1. Bibliometric analysis: purpose and relevance

A bibliometric analysis has been developed to study the interaction between the concepts "internship", "students' skills", and "employability" and understand the growing interest of researchers in putting together these concepts in their studies. Bibliometric analysis was defined as "the quantitative study of physical published units, or of bibliographic units, or of surrogates of either" (Broadus, 1987). Ellegaard & Wallin (2015) state that bibliometric methods are used to provide quantitative analyses of written publications and are related to other terms like "infometrics" and "scientometrics". More recent, authors state that the systemic reviews of an area, such as bibliometric analysis, are considered the ultimate proof of the existence of a field (Corbet et al., 2019). Thus, the main purpose of bibliometrics is to classify the information according to several standard criteria such as the authors of the papers, relevant journals, institutions or countries (Merigó et al., 2013). The bibliometric studies are receiving increasing attention as they manage to illustrate a general picture regarding certain fields of research. The rapid development of scientific databases and the advance in technology facilitated detailed bibliometric analyses in all the fields of research. The extraction and manipulation of data can be done directly in the scientific DBs, by title, topic, abstract or keywords. Recent developments in technology allows finding new metrics like statistics, page rank, bookmarking tools or social media statistics (Ellegaard & Wallin, 2015).

In this paper, several bibliometric techniques were used in order to conduct the analysis. Firstly, we start by presenting the evolution of the number of documents mentioning the searched keywords, the most prevalent thematic areas and dominant publications and their territorial distribution. Next we focus on the analysis of the links between them, mapping the formation of networks and clusters

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through bibliographic coupling. Finally, we carry out a citation analysis, exposing lists, rankings and trends.

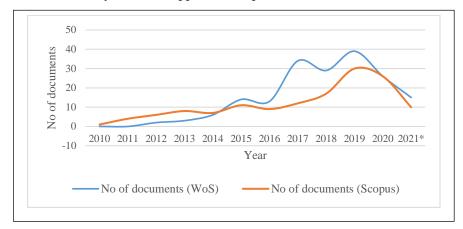### 3.2. Materials and databases surveyed

Unlike most of the similar studies that rely on one single data source, this research uses two DBs: Web of Science Core Collection (WoS) and Scopus database. The two scientific DBs were chosen as they are the two largest and most relevant resources for the scientific community, have a multidisciplinary character (as our research topic) and can assure the neutral character of the bibliometric analysis (Pranckutė, 2021). They also have a clear capacity of capturing research trends in a certain field and a broad number of sources of data related to citations and abstracts of scientific literature (Ruiz-Real et al., 2021). By looking into both DBs we aim at providing a picture on our research topic as complete as possible. We are aware that some information from the two DBs may overlap to a certain extent. However, as WoS and Scopus are considered complementary in the research community, the two DBs also have differences related to: the interface and functionality (Pranckutė, 2021), or recent trends, Scopus being more dynamic (Zhu & Liu, 2020). In her extremely comprehensive comparative review on the two data bases, Pranckutė (2021) presents the advantages and disadvantages of using each database. In this context, the use of both sources should add value to the present study. In the first stage of our research, on 17th of September 2021, a keyword search process was performed in the Web of Science Core Collection (WoS) and Scopus DBs. In the WoS database, the search was performed in the topic field; this section includes searches in the following fields within a record: title, abstract, author keywords and Keywords plus. The keywords used are "competence *" or "skill *", "internship *" and "employability *". After each of the four keywords, the * symbol was added to find all possible keywords combinations (e.g. competence, competency or competencies, skill or skills, or internship or internships). The database search was limited to the publication period 2010-2021 (until 17th of September 2021). The type of documents retained were papers such as articles, reviews, conference papers or early access research. According to this criteria 181 documents were obtained. They are the subject of the following analyses in this paper. In the second stage, using the same keywords preceded by the * symbol, a search was performed in the Scopus database, in the section "Article title, abstract, keywords". By limiting the search to the publication period 2010-2021 (until 17th of September 2021) and filtering the documents to be only articles, conference papers or reviews, 141 documents were obtained. Thus, even having the same criteria and search period, about 25% fewer articles were indexed in the Scopus database than in the WoS database. Importantly, only 66 papers belong to both DBs (less than 50% in each database), confirming the expected complementarity and the need to study both DBs for providing a comprehensive picture of the studied field.

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The detailed analysis of the links between the keywords searched in the two DBs was performed by using VoSviewer software (van Eck & Waltman, 2021), version 1.6.17, a freely available computer program. The software facilitates the creation and visualization of bibliometric maps of science, networks that include journals, researchers, publications, and that can be constructed based on citation, bibliographic coupling, co-citation or co-authorship relations (Van Eck & Waltman, 2021; Merigó et al., 2018). It has the advantage of efficiently clustering very large number of scientific publications.

4. Results and discussions
4.1. Trends across a decade of publishing in the field

The research output on the interaction between the three studied dimensions grows significantly since 2017, indicating an increased interest of the academic community in the research topic in recent years (see Figure 1). In the first two years of the search period (2010 and 2011 respectively), no articles are found in WoS and only 5 articles appear in Scopus, (less than 4%).

Note: * - articles indexed in 2021 until 17th of September 2021

Figure 1. Number of documents mapped from WoS and Scopus databases, 2010-2021*

In the first half of the period, a higher number of articles is identified in Scopus, while in the second half with more papers being published in WoS than in Scopus on the topic internship-skills- employability. We have selected the five most represented thematic areas for both DBs. The results show significant differences between the two DBs in the area, as well as in the share of papers included in each domain (see Figure 2). Some papers are affiliated to two or more thematic fields, while some thematic areas contain just a very small number of documents.

As it can be seen below, within the WoS database, around 60% of the selected articles belong to the Education/Education Research category. At a

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considerable distance with less than 10% of the articles are areas such as Education/Science (8.84%), Management (6.08%), Interdisciplinary Social Sciences (5.53%) and Business (4.42%). In the Scopus database the categories of classification of the publications are different from WoS: the Social Sciences category is by far the category with the most publications on the researched topic with a percentage of over 40%. This is followed by Business, Management and Accounting (16%) and Engineering (12%) of all indexed articles. Thus, as revealed also by the next analyses (where, for example, a concentration of papers around a few publications can be observed) in the WoS database, unlike in Scopus, a greater polarization of publications towards a particular field can be observed. It can also be observed that the first two categories in WoS, which are related to the field of Education Sciences and account for around 70% of the publications, overlap and can be integrated into the first category in Scopus, i.e. Social Sciences, which in turn accounts for just around 40% of all articles indexed in Scopus.
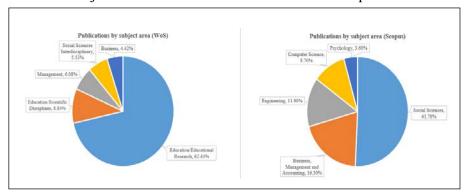

Figure 2. Publications by subject area in WoS and Scopus databases

The most representative and influential journals/conference volumes in which papers on the topic of internship-skills-employability are published are shown in Table 1. From this table it can be retrieved that the majority of WoS indexed papers cluster around a few conferences and journals in the field of education. About 19% of the articles in the WoS database are found in the volumes of the various editions of INTED (International Education Conference), about 7.75% in ICERI (International Conference of Education, Research and Innovation) and about 7.75% in EDULEARN (International Conference on Education and New Learning Technologies). The journals with a significant number of articles on the topics analyzed are also in the field of education: Education and Training (about 6%) and Higher Education Skills and Work Based Learning (4.5%) and Higher Education (4%). As far as the Scopus database is concerned, it can be seen that the first places in the ranking are dominated by four journals: Higher Education Skills and Work Based Learning, Education and Training, Higher Education and International Journal of Recent Technology and Engineering, which account for about 15% of the total publications indexed in Scopus on the topic of internship-

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skills-employability. With the exception of the last mentioned journal, the top 3 journals also dominate the WoS ranking.

To conclude, compared to WoS, in the Scopus database articles in the field are not concentrated around a few publications/conferences, but are more evenly distributed among the various publications. It should also be noted that while in WoS the majority of publications are conference volumes, in Scopus journals predominate.

Table 1. Journals/ conferences with papers in the analysed field (Top 6)

Database	WoS		Scopus	
Ranking	Conference Volume (C)/ Journal (J)	Papers (~%)	Conference Volume (C)/ Journal (J)	Papers (~%)
1	INTED (C)	19%	Higher Education Skills and Work Based Learning (J)	5.5%
2	ICERI (C)	7.75%	Education And Training (J)	4.25%
3	EDULEARN (C)	7.75%	Higher Education (J)	2.85%
4	Education and Training (J)	6%	International Journal Of Recent Technology And Engineering (J)	2.85%
5	Higher Education Skills and Work Based Learning (J)	4.5%	ASEE (C)	2.15%
6	Higher Education (J)	4%	Journal of Teaching and Learning for Graduate Employability (J)	2.15%

4.2. Territorial distribution of the publications

Regarding the geographical distribution of scientific output by countries in the field of the relationship between skills, employability and internships, in Table 2 there are listed the first 10 countries according to the number of papers published on the researched topic.

Table 2. Top 10 countries according to their scientific production

Database	WoS		Scopus	
Ranking	Country	No of papers	Country	No of papers
1	Australia	27	United Kingdom	26
2	Spain	21	Australia	21
3	England	19	USA	17
4	USA	18	Malaysia	11
5	China	14	India	11
6	Portugal	14	Spain	10
7	Malaysia	11	Portugal	10
8	Romania	8	China	5
9	Scotland	6	Italy	4
10	Germany/ India	5	Denmark/Taiwan/UAE/Sweden	3

In both WoS and Scopus DBs, in the top three countries with the most publications in the field under scope we find Australia and England. Spain, which

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ranks second in the WoS ranking, ranks sixth in the Scopus ranking. USA, which
ranks third in Scopus, ranks fourth in WoS. However, as the table reveals, the vast
majority of the countries in the WoS ranking can also be found in the Scopus
ranking, but in other positions. Also the top five countries in both rankings account
for more than 50% of all publications in the field in both WoS and Scopus. This
ranking provides also information about researchers' willingness to publish in
journals, conferences, etc. indexed in various DBs. The interest to be indexed in a
particular database depends on the visibility of that database in that country, its
prestige at national level, as well as more pragmatic aspects such as evaluation and
funding criteria in academia, depending on the indexing of the journal/conference
in which a researcher publishes. In this regard, it is interesting to mention the
example of Romania, which is in the 8th position with about 4.5% of the total
number of papers in WoS, while in Scopus it is not among the top 25 countries
from which the publications in the field originate. This indicates a clear interest of
Romanian researchers to publish in WoS, as the national academic evaluation of
the researchers is linked to this database. Similarly, Denmark and the United Arab
Emirates (UAE) are ranked 10th in Scopus, while in WoS they are not among the
top 25 countries.

The universities from which most publications originate are both for the
WoS and Scopus DBs universities in Australia (Edith Cowan University,
Macquarie University, Griffith University), Portugal (Universidade De Aveiro,
Instituto Superior de Engenharia do Porto, Instituto Politécnico do Porto), Spain
(Complutense University Of Madrid). This is in line with the results of the
bibliometric analysis concerning the origin countries. It is worth noting that British
universities do not appear among the first in this top, although England is listed
among the first countries in terms of number of articles on the topic. This
discordance suggests that in the UK research efforts on the theme are not
concentrated in a single university, but there are rather isolated initiatives in
various universities.

4.3. Content of the publications: the network analysis of the keywords

Following the analysis of the trends of publishing on the topic "internship -
skills - employability" in the period 2010-2021 in the WoS and Scopus DBs and
the geographical distribution of papers, the aim of this research is also to carry out
an analysis of the links between the keywords mentioned in the documents
considered in the present study in order to highlight the researchers' interests in this
topic. In order to perform this content analysis, the VOSviewer software (Van Eck
& Waltman, 2021) was used. VOSviewer became very popular in the last years,
being widely used for content analysis within bibliometric studies, as it results
from similar papers published on various other topics (Ruiz-Real et al., 2021).

After entering the database with information about documents published in
WoS into VOSviewer, the software counted 724 keywords mentioned in the 181
documents under analysis. In order to analyse the most relevant links between the

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most frequent keywords mentioned in the selected WoS documents, only words that appeared together in at least 5 of the 181 documents were subjected to analysis, and there were 36 keywords that met this criterion. Similarly, information about the 141 documents selected from the Scopus database was also entered into VOSviewer and the software counted 755 keywords mentioned in these documents. Keeping only keywords that appear together in at least 5 of the 141 documents, 22 keywords that met this criterion were kept for analysis. Next, Figure 3 and Figure 4, highlight the main results of the keyword analyses of the articles identified in the two DBs, WoS and Scopus. These maps (in the form of a network graph) show a clustering of the keywords mentioned in the documents analysed in the two DBs in different colours, as well as the relationships and links established between them. In this context, the links highlight how many times these words were found together in the same documents; a link may be displayed thicker or thinner depending on the number of co-occurrences of these keywords together in the scientific documents. The circles highlighted in these network graphs are called nodes (a node is also a keyword represented on the map), the size of which is determined by the frequency of occurrence of the keywords in the documents under analysis. At the same time, the distance between two keywords (as a location in the network graph) illustrates the relationship between them, in the sense that the closer these words are, the stronger the relationship between them.

Figure 3 shows that based on the number of occurrences together in at least 5 documents, there are 36 keywords represented as nodes within this network graph. Furthermore, according to the size of these nodes, determined by the frequency of occurrence of keywords in the documents under analysis, the keywords "employability" (93 occurrences) and "internship" (80 occurrences) were the most mentioned in the keyword list of the selected documents. At the same time, Figure 3 illustrates that the 36 keywords are grouped into 5 clusters according to the links formed between them when mentioned together in the keyword list of a document. Thus, the cluster with the highest number of nodes, i.e. 15, is the red cluster, followed by the green cluster with 8 nodes, the blue cluster with 7 nodes, the yellow cluster with 4 nodes and the purple cluster with 2 nodes. On the other hand, analysing the distance between the existing keywords in Figure 3, as well as the thickness of the lines drawn between the keywords, it can be seen that the strongest links between the keywords mentioned in the WoS database documents are created between the words employability and internship, followed by the links between the words employability and higher education and internship and higher education. The strong links between these words could also be due to the growing emphasis on the idea of ensuring a concordance between the education system and the requirements of the labour market, as the transition from student to employee status has become an important issue for the labour market, students and universities. Furthermore, based on these relationships, it can be seen that studies in the literature also highlight the key role that higher education has in increasing

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the employment chances of students on the labour market. In this sense, in the current context, universities need to constantly assess the labour market and the skills required by employers (Huiszoon, 2018) in order to redefine the content of the disciplines and adapt the educational offer to the needs of the labor market. Therefore, they can develop among students the skills and abilities required in various professional fields.
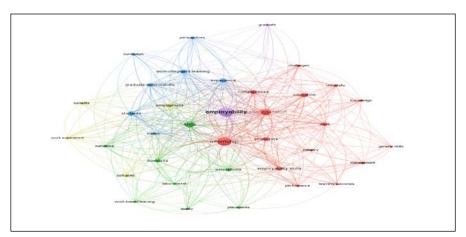

Figure 3. The links between the keywords of the papers published in WoS

The links between the keywords in the documents from the Scopus database, described in the network diagram in Figure 4, show similar patterns to the WoS documents. Specifically, the size of the nodes in Figure 4, as determined by the frequency of occurrence of keywords in the documents under analysis, suggests that the same keywords as in the WoS keyword analysis, namely 'employability' (59 occurrences) and 'internship' (47 occurrences) were the most frequently mentioned keywords in the list of keywords of the selected documents from the Scopus database. On the other hand, by analyzing the distance between the existing keywords in Figure 4, as well as the thickness of the lines drawn between the keywords, it can be seen that the strongest links between the keywords mentioned in the documents in the Scopus database are established between the words employability and internship, followed by the links between the words employability and skills. Based on these strong links between the concepts highlighted, the idea that employment opportunities in the labor market are significantly influenced by the knowledge, skills and competences acquired by those who intend to be employed is strengthened. Acquiring specific employment skills increases the chances to obtain a suitable job, and at the same time to develop the career in a very dynamic and competitive social and technological context (Barnett, 2006).

At the same time, Figure 4 illustrates that the 22 keywords are grouped into 3 clusters according to the links formed between them when they are mentioned

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together in the keyword list of a document. Thus, the cluster with the highest number of nodes, i.e. 9, is the red cluster, comprising the keywords "communication skills", "curriculum", "educational computing", "employability", "higher education", "personal training", "soft skills" and "student". These keywords might emphasize a particular research interest for the skills that universities have to develop in order to foster students' employability. The second cluster consists of 8 nodes and is represented on the keyword map by the color green. The 8 keywords in this cluster are closely related to education and employability, namely: "employment", "education", "skills", "human", "adult", "article", "female", "male". Moreover, the frequent occurrence of the keywords 'human', 'adult', 'female', 'male' in this cluster might also suggest that over time researchers' interest in the topics of internship - skills - employability have also shifted towards highlighting comparative analyses between women and men. The third cluster, the blue one, comprises 5 keywords analyzed together in the articles published on the topic under analysis, namely: "developing countries", "employability skills", "experiential learning", "internship" and "work-integrated learning", which lead to the idea of integrating practical learning in the academic curriculum in order to boost the employability of students.

On the other hand, for a more detailed analysis of the links between the keywords mentioned in the documents published on the topic "internship - skills - employability", it is also relevant to analyze their evolution over time in order to determine the evolution of researchers' interest in this topic. Thus, Figure 5 and Figure 6 illustrate the evolution over time of the keywords mentioned in the documents published in the WoS and Scopus DBs.

Based on the information in Figure 5 it can be highlighted that in the period 2010 - 2017 researchers' interests were closely related to concepts such as "knowledge", "industry", "generic skills", and then "employability", "internship", "higher education", "employment". Subsequently, in the period 2017 - 2018 the articles published on the topic "internship - competences - employability" underline the fact that researchers' interest has also shifted towards a series of concepts such as "skills", "education", "students", "business", "experience". More recently published articles on the subject show that researchers have begun to focus on concepts such as "work experience", "graduate employability", "performance", "soft skills", "perspectives", "quality", "perceptions" and "impact". The recent use of the keywords "perceptions" and "impact" in the context of the topic under review could suggest evidence of researchers' interest in highlighting the relationships between the concepts of internship, skills and employability through the lens of quantitative research.
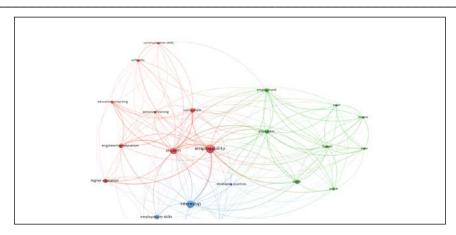
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Figure 4. The links between the keywords of the papers published in Scopus
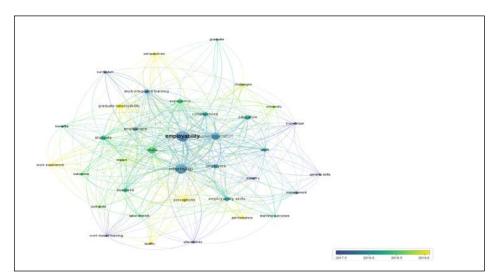

Figure 5. Evolution of the keywords of the papers published in WoS

Compared to the papers in the WoS database, for which researchers' interest in articles published on the topic "internship - skills - employability" changed mostly in the period 2017 - 2019, the keywords mentioned in the papers published in the Scopus database illustrate that the most obvious changes in researchers' interest in the topic under analysis occurred in the period 2016 – 2018 (see Figure 6).

In the period 2010 - 2016 the researchers' interest was concentrated around keywords such as "employment", "soft skills", "personnel training" and "education computing".
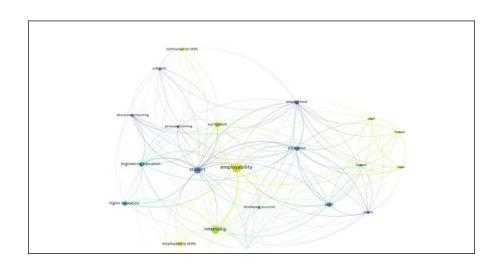
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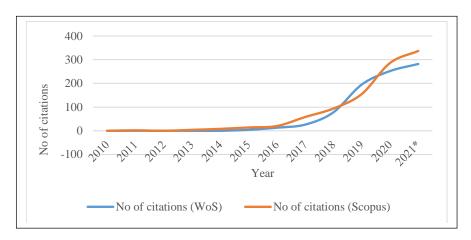**Figure 6. Evolution of the keywords of the papers published in Scopus**

After the second half of 2016 and until mid-2017, the interest of researchers who published articles on the topic "internship - skills - employability" also shifted towards a number of concepts such as "higher education", "experiential learning", "engineering education", which again highlights the key role of higher education institutions in developing skills and increasing students' chances of employment on the labor market. After the second half of 2017, researchers' interest started to shift towards concepts such as "internship", "employability", "employability skills", "communication skills", which could indicate that in the global economy, employees would need, in addition to technical knowledge and skills that are often job-specific and non-transferable, a number of soft skills which are cross-sectorial, enhance employability and enable them to contribute to the growth of an industry, or corporations (Dania et al., 2014). This confirms the results of the recent studies stating that skills are factors that ensure employability (Fenta et al., 2019).

4.4. Relevance of the publications: the citations analysis from a bibliometric perspective

According to Alonso et al. (2009) there are several indicators such as total number of citations, average citation per paper, the impact of the journals where the papers are published, which offer an overview of the impact of the research performed in a certain field. In the next sections it is presented both the evolution of citations in the time framework 2010- 17th of September 2021 in the two DBs and a ranking of the most quoted publications with their corresponding total number of citations and average number of citations per year.

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The evolution of cumulative citations over the period 2010-2021 is shown in Figure 7. The number of citations in the WoS database is increasing dramatically from 2017 onwards, culminating in 2020 (2021 not being completed, it was not taken into account in this analysis). In the Scopus database, a considerable increase in the number of citations is recorded from 2016 onwards, which increases significantly in 2019 and peaks in 2020.

This evolution of citations is in line with the evolution of the number of articles on the researched topic and indicates an increased interest of the academic community for the topic under discussion. It is relevant to analyze which factors have determined this steep increase in citations, and thus implicitly in the interest of research and publication in the field, since 2016-2017. It could be more intensive discussions in the civil society about the role that universities play in the process of equipping students and graduates with the skills required by employers and therefore increasing their employability. Another factor that led to an increased interest in the researched topic might result from the request of the business environment which is urging universities to align the academic curriculum in order to address the real need of certain skills and abilities of graduates in companies. This alignment also takes place through internships. Therefore, the research interest on the topic under analysis could also be explained by the increased interest in the public debate and media for topics such as young people's skills, employability, the role of higher education institutions in educating specialists according to the labor market's needs and the wider role of universities in society in general.

*Note: * - citations captured in 2021 until 17th of September 2021*
Figure 7. Evolution of citations, 2010-2021*

The most influential articles are the publications which gathered the largest numbers of citations over years. By far, the most cited article in the WoS database (126 citations from 2010-2021) belongs to Clarke M. and approaches the topic of graduate employability. On the second place, with 34 citations, is an article of

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Jacobone and Moro analyzing the role of ERASMUS programs on European skills and identity. Third, with a total of 30 citations, ranks an article on the evaluation of internship and employability programs in ICT sector. With regard to the Scopus database, a large proportion of the most cited articles are also the most cited in WoS. Therefore, trends are implicitly similar in the two DBs. For example, Clarke's article on graduate employability has unequivocally the highest number of citations in both WoS and Scopus (126 and 187 citations respectively), far behind the second most cited article (with 34 citations). It can also be seen that Jacobone and Moro's article on the impact of the Erasmus program and Buvinic and Furst-Nichols' article on the promotion of women and equal opportunities are in the top 5 most cited papers in both DBs. Thus, the analysis of the citations in the two DBs highlights the major overlaps that exist, and it can thus be concluded that there are several very influential articles in the field that are intensively cited in both DBs.

5. Conclusions

The paper provides an innovative approach of the less studied interactions between internships, students' skills, and employability, by using a bibliometric analysis; the papers were reported into two the most relevant scientific DBs, WoS and Scopus and analyzed these papers using VOSViewer. This novel approach has the advantage of also offering a comparative analysis of the two databases.

Our results show that, even if there is an overlap between the two DBs, in this particular case they seem to be rather complementary. Starting with the number of entries, we notice a larger number of papers extracted from WoS (181) compared to Scopus (141). The Top 5 domains of the selected papers are significantly different, as well as the share of the papers included in each domain: within the WoS database, around 60% of the selected articles belong to the Education/Education Research category, while in Scopus 40% belong to Social Sciences. Also, compared to WoS, in the Scopus database articles in the field are not concentrated around a few publications and Conference Proceedings, but are more evenly distributed. It should also be noted that while in WoS the majority of publications are conference volumes (and with Open Access), in Scopus journals predominate (mainly with restricted access). This confirms the results provided by Pranckutė (2021) that has emphasized a higher content accessibility in WoS compared to Scopus.

In both WoS and Scopus DBs, Australia and England are in the top three countries with the most publications in the field under scope. The differences related to the rest of the countries ranking may be related to national relevance of a specific database for researchers or to the access to research funding.

"Employability" and "internship" were the most frequently mentioned keywords in the list of keywords of the selected documents from both databases. Also between those keywords there is the strongest link, followed by the links between the words employability and skills. After 2017, researchers' interest started to shift from education-related concepts, such as "soft skills", "personal training"

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to "internship", "employability", "employability skills", indicating the increasing interest in the role of young people employment.

The relevance of the studied paper is finally measured through the number of citations. Our results demonstrate that in Scopus and WoS DBs the number of citations is increasing after 2016 and 2017, respectively. This is a proof that the research interest on the topic under analysis is growing, alongside with the increasing societal relevance of young people's skills, employability, the role of higher education institutions in educating specialists according to the labor market's needs and the wider role of universities in society in general.

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