

Exploring Lecturer's Communication Skills in Online Learning Environments: A Bibliometric Analysis

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Abstract

Online learning is often met with resistance from educators and tutors due to its departure from conventional educational practises. Moreover, a significant number of students lack the knowledge and preparedness necessary to use online learning platforms for educational objectives. Because of this, a comprehensive bibliometric analysis of online learning reading is conducted in this study. By using similarity visualisation tools, this analysis included all studies pertaining to "online learning and university instructors" between 2011 and 2021. (Vosviewer). By analysing a total of 2,220 articles as they appeared in the Scopus database on July 14, 2022, the journal was able to determine which topics were most effectively covered. Findings indicate a number of important research topics, including (E-learning, Online learning, teachers learning, university E-learning, and intelligent university teaching). Numerous burgeoning subjects have been discerned (Digital teaching, online learning settings, self-directed learning). The study provides a strategic framework for aspiring researchers, with an emphasis on key domains where achievement is attainable.

Keywords: Online Learning, University Teachers, Intelligent, University Teaching, Bibliometric Analysis.

Introduction

Because of the global health crisis Covid-19 pandemic, all countries of the world closed all their sectors, especially the education sector which needed crowds for activities (Agarwal & Kaushik, 2020). However, both teachers and participants feel unprepared 100% of changes from traditional learning to online learning (Jandrić, 2020). prospective teachers should have 21st-century skills, information and communication technologies literacy, critical thinking,

creativity and innovation, self-directed learning skills, and metacognitive awareness (Agapiou & Lysandrou, 2015; Karatas & Arpaci, 2021). There are many ways that are used as alternatives so that schools continue to carry out training. Online learning is an option that many schools use because it is easy to implement and practical, but it may be a challenge for teachers and participants alike. therefore, teachers must be skilled to make online classes or quizzes that are appealing to make course easier for participants in learning (Nur Hidayat et al., 2020; Tober, 2011). Consequently, this research is a quantitative analysis of online learning for papers that published between (2011–2021). Using bibliometrics analysis illustrates the importance of online learning, particularly, online learning for university teachers, employed to assess the academic outputs of numerous studies disciplines the intellectual structure, trends, online learning study by spotting the top journals' contributions and illustrating the scientific associations. It was structured on 14/7/2022 of digital readiness consisting of clarification of the relationship between the elected standards for online learning and university teachers. In addition, they have been intended to evaluate educational study disciplines based upon 2280 publications that were gathered from the Scopus databases. Bibliometrics analysis is a statistical method for quantifying and assessing the number of rising trends in a specific study area (Martí-Parreño et al., 2016; Abuhassna et al., 2022a).examined documents from a quantitative perspective regarding scientific collaborations in subjects' areas -social science, Art and Humanities, and English language. For this purpose, the objectives of this study are to analyze online learning publications indexed in Scopus by using bibliometrics and visualization analysis. Moreover, all data have been collected from Scopus, the world's leading abstract and citation database of peer-reviewed research. Therefore, this research data included many leading journals in online learning and education technology resources. This analysis allowed us to see how the research interests in online learning have been altered over time. Additionally, this research visualized and investigated the scientific collaborations among top contributors in online education that were unavailable in prior studies. Exclusively, we intended to answer the following research questions

- (RQ1) What are the distribution of online learning, and university teachers' publications by years for the last decade?
- (RQ2) What are the most relevant Journals, and authors in online learning, and university teachers?
- (RQ3) What are the most productive countries in online learning, and university teachers?
- (RQ4) What are the major research keywords concerning online learning, and university teachers?

Materials and Methods

This paper has been structured based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework of Moher et al (2015), to extract the relevant documents in online learning and university teachers for this study to fill the gap in the literature. This research is a quantitative analysis of online learning publications published between (2011–2021) To illustrate the importance of online learning, particularly, online learning for university teachers by using Bibliometrics analysis Abuhassna et al (2022a). Bibliometrics analysis has been employed to assess the academic outputs of numerous study disciplines. Digital readiness consists of Clarification of the relationship between the elected standards for online learning, and university teachers. In addition, they have been intended to evaluate educational study disciplines. based upon 2280 Publications that were gathered

from the Scopus databases. Relevant publications were included in the study to reach high-quality articles, excluding any conferences or proceedings. Keywords were searched in the title, summary, or keyword sections by selecting the “Topic” option. English and open-access articles were included in the study among the articles obtained after the search. “Online learning” and “university teachers” have been used as keywords and phrases that evoke them. Scopus has been used to obtain online learning readiness journals in this research since it includes intelligent tools to visualize, analyzed, and track study output in different areas such as humanities, technology, and science. Additionally, to guarantee the relative significance of the analyzed publications to online learning readiness, in this review, the criteria related to online learning and university teachers were used through the analysis of research papers located within the database in Scopus. The table1: shown the inclusion criteria used “online learning, universities teacher, Publication’s years, subject area, and English language) and all the criterion was excluded from this review because not related to the information that is needed in this study. we have carried out manual screening to exclude irrelevant publications following the criteria shown in Table 1. In this manner, 2280 publications remained for additional analysis. Exclusion and inclusion criteria are presented in Table1. In addition, the analytic research framework is illustrated in Fig1.

Table 1
Inclusion and exclusion criteria

Inclusion criteria	Online learning
	Universities teacher
	Publications years between (2011 - 2021)
	The research was done in the English language
	The research used the subject area(social science & art and humanities)
	The research used most 10 prolific universities
Exclusion criteria	Open Access types available in Scopus
	Author name, Document type, Source title, Keyword
	Publication stage, Funding source, Country/terrotory
	Source type, Any other languages,
	Not being included in (Computer science, Engineering, Mathematics, Medicine, Psychology, Decision Science, Business Management and Accounting, Environmental science, Physics and Astronomy, etc.)
	Not focused on online learning and Universities teachers

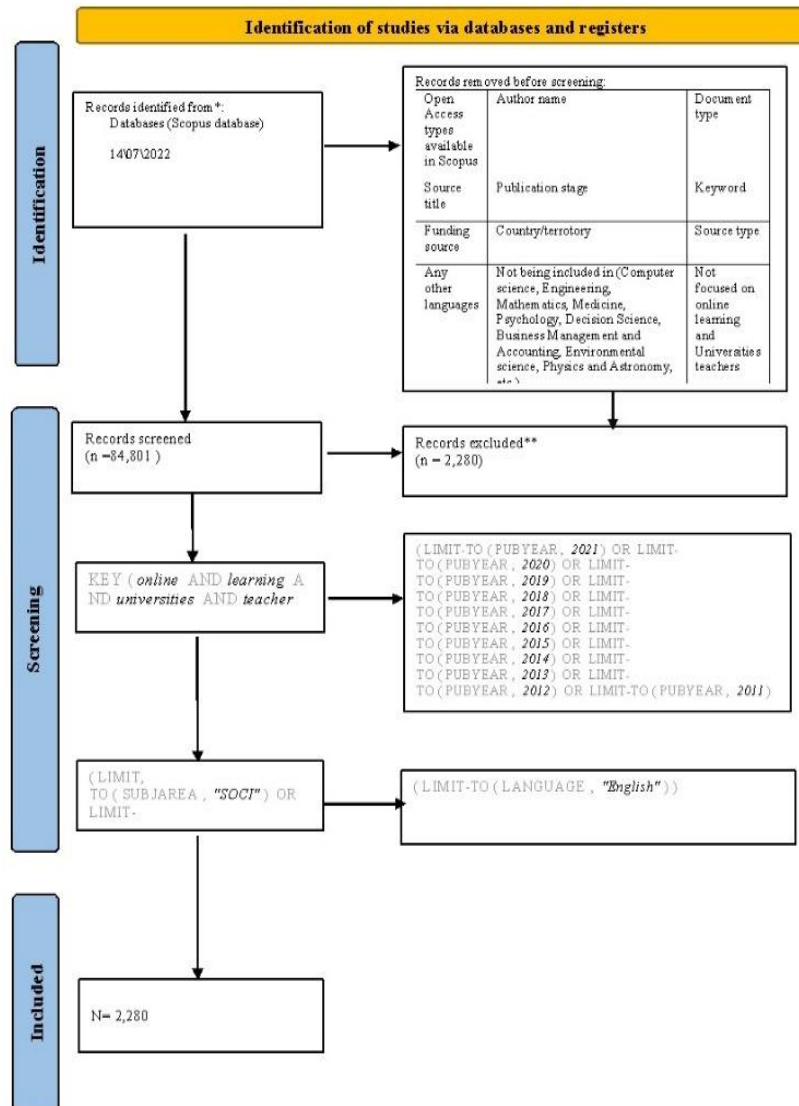


Fig1. Analysis framework of the study

Findings

The study aims to reveal the studies' profile for online learning readiness for the last decade. Findings for the studies dealt with in this context were given in parallel with the research questions.

(RQ1) What are the distribution of online learning and universities teacher publications by years for the last decade?

The first finding addressed within the context of content analysis is the publication year of the articles through the last decade. It was seen that the articles were mainly published in the last couple of years, in the year 2021, a total number of 654 publications were published in relation to online learning and universities teacher, in the year 2020 a total number of 331 publications were published in relation to the same research area, following by a total number of 181 publications in the year of 2019, and the other publications were distributed for the rest of the years as shown in fig2

Figure2: distribution by years

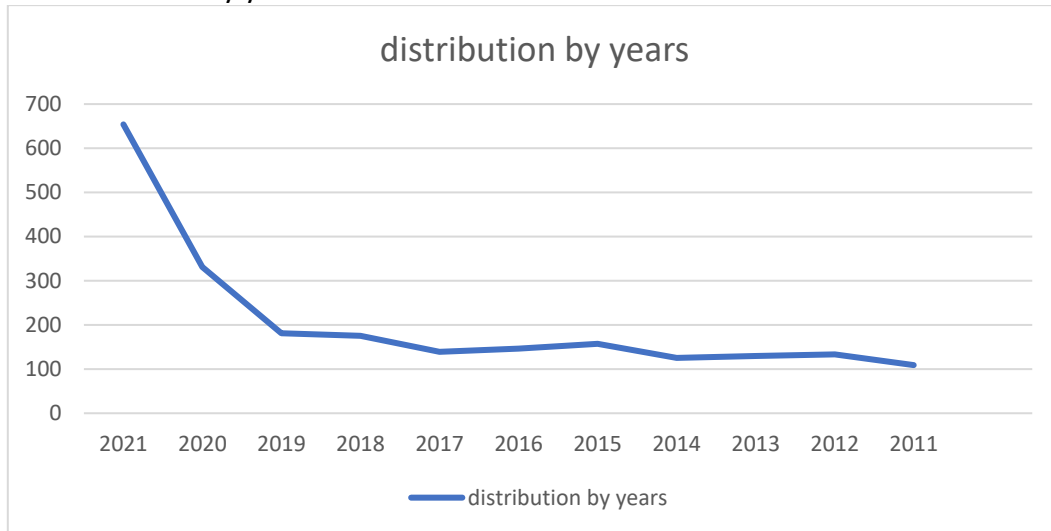


Figure 2: most 10 prolific journals

RQ2) What are the most relevant Journals, and authors in online learning and universities teacher?

In the analysis made for the most 10 cited journals, "Total Publication", "Total Citation" "Cite Score of the journal", "The most cited article", "Times cited" and "Publisher" the journal "Sustainability" Total Publications (TP) "36,485" articles, total citations (TC) "181,699" articles, cite score (2021) "5.0", Most cited publication author "(Basu.et al., 2021)", time citations for this author's article "104", also in level the second level the journal "International of Emerging Technologies in Learning" Total Publications (TP) "1,479" articles, total citations (TC) "5,682" articles, cite score (2021) "3.8", Most cited publication author "(Gracia,. et al., 2021) time citations for this author's article "25", and the publisher journal "Computers and Education", then the journal "Computers and Education" Total Publications (TP) "822" articles, total citations (TC) "16,299" articles, cite score (2021) "19.8", Most cited publication author "(Tang. et al., 2021)" time citations for this author's article "64", and the publisher journal "Elsevier", Can see the Sustainability journal is the most one cited, which means that they are the most interesting by researchers in a topic online learning and universities teacher was chosen as the analysis criteria as presented in fig2, and table 2.

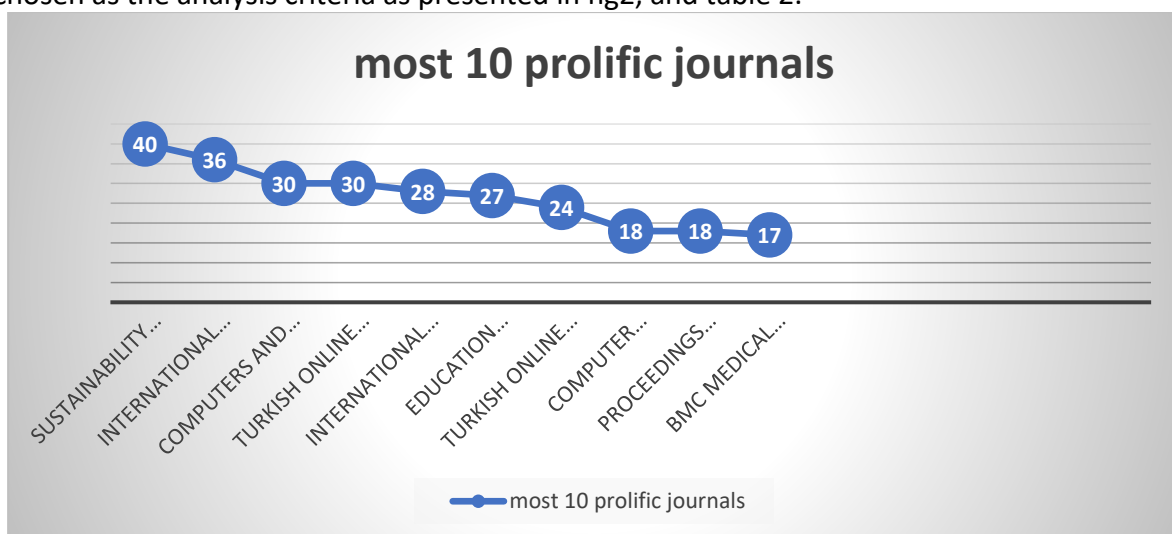


Table 2

Most Prolific Journals

Journal	TP	TC	Cite Score (2021)	Most cited publication	Times cited	Publisher
Sustainability	36,485	181,699	5.0	(Basu. et al., 2021)	104	Multidisciplinary Digital Publishing Institute (MDPI)
International Journal of Emerging Technologies in Learning	1,479	5,682	3.8	(Gracia,. et al., 2021)	25	International Association of Online Engineering
Computers and Education	822	16,299	19.8	(Tang. et al., 2021)	64	Elsevier
Turkish Online Journal of Educational Technology	1,185	435	0.4	(Kaliisa. et al., 2017)	85	Sakarya University
International Review of Research in Open and Distance Learning	261	1,596	6.1	(Kamble. et al., 2021)	9	Athabasca University
Education Sciences	1,686	4,823	2.9	(Kalogiannakis, M. et al., 2021)	73	Multidisciplinary Digital Publishing Institute (MDPI)
Turkish Online Journal of Distance Education	245	633	2.6	(Muzammil,M., et al., 2021)	11	Anadolu University
Computer Assisted Language Learning	163	1,377	8.4	(Zou, D., et al., 2021)	48	Taylor & Francis
Proceedings - Frontiers in Education Conference, FIE	1,670	1,147	0.7	(Vykopal, J., et al., 2021)	5	IEEE
BMC Medical Education	1,901	7,103	3.7	(Harries, A., et al., 2021)	45	Springer Nature

TP= Total Publications, TC= Total Citation,

(RQ3) What are the most productive countries in online learning, and university teachers?

This research the distribution of the most productive journals concerning online learning readiness is presented analyses the most 10 prolific authors who were acceptances in the field of "online learning and university teachers". In the content analysis made for the prolific authors in the online learning readiness research area, "Authors", " Total of publications", " High index", " Current affiliation", and " Countries". were chosen as the analysis criteria as shown in Table3. Can see the 10 prolific authors in the online learning and university teachers research area. Moreover, the most prolific author was "Tsai, Chia Wen" with a total number of publications of "7", with the most h-index of "20", in addition the Current affiliation "Ming Chuan University, Taipei, Taiwan" and the author is from "Taiwan". Followed by "Limniou, Maria" with a total number of publications of "6", with an h-index of "7", in addition the Current affiliation "University of Liverpool, Liverpool, United Kingdom", and the author is from "United Kingdom" as well. Followed by "Mozelius, Peter." with a total number of publications of "6", with an h-index of "9", in addition the Current affiliation "Mittuniversitetet, Sweden", and the author is from "Sweden". Furthermore, from an H-index standpoint, the top three remained the same as ranked by the publishing count. Moreover, other prolific authors in online learning readiness research area data were presented in Table 3

Table3

List of the most 10 prolific authors in online learning and university teachers acceptance

Author	TP	h-index	Current affiliation	Country
Tsai,Chia Wen	7	20	Ming Chuan University, Taipei, Taiwan	Taiwan
Limniou, Maria	6	7	University of Liverpool, Liverpool, United Kingdom	United Kingdom
Mozelius, Peter	6	9	Mittuniversitetet, Sweden	Sweden
Charbonneau-Gowdy, Paula A.	5	5	Universidad Andrés Bello, Santiago, Chile	Chile
Rienties, Bart C.	5	31	The Open University, Milton Keynes, United Kingdom	United Kingdom
Å imonovĀj, IvanĀj	5	8	Ostravská Univerzita v Ostrave, Ostrava, Czech Republic	Czech Republic
Andone, Diana	4	8	Universitatea Politehnica Timisoara, Timisoara	Timisoara
Badia, Antoni	4	10	Universitat Oberta de Catalunya, Barcelona, Spain	Spain
Barber, Wendy	4	7	Ontario Tech University, Oshawa, Canada	Canada
Bennett, Sue	4	26	University of Wollongong, Wollongong, Australia	Australia

As shown in Table 4 the 10 most productive countries and academic institutions that interested in "online learning university teachers" area, "Spain" is the most of countries

interesting publications in online learning, and the university "Universitat Oberta de Catalunya" was the most publications papers among Spanish universities with 32 numerical publication papers. The United Kingdom (UK) got the second level after "The Open University" one of the most (UK) universities interested in "online learning university teachers" was publishing 22 papers. And followed "Hong Kong Polytechnic University" in Hong Kong country. one more interesting on "online learning university teachers" area within 19 publications. through the table4. The following explains the details of the remainder of the universities that are still the most interested in distance education, according to what was mentioned in this paper.

Table 4

List of the 15 most productive countries and academic institutions

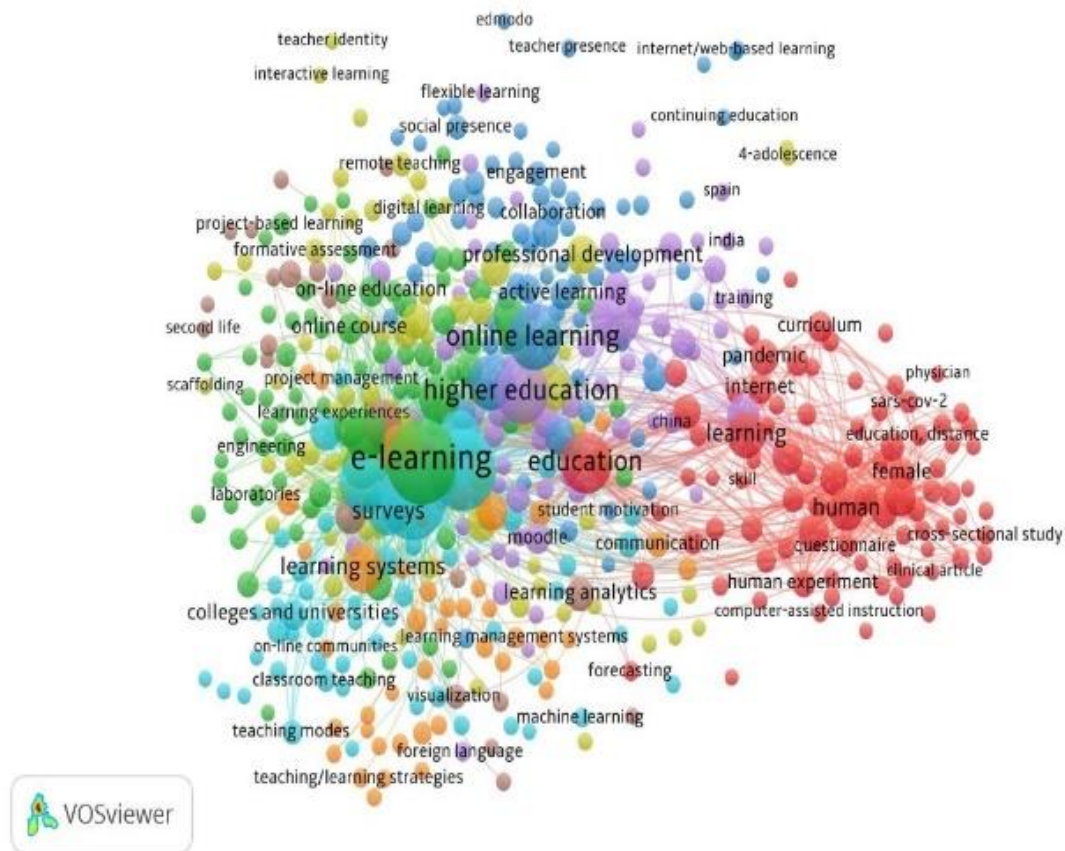
Most productive academic institution	Country	TP
Universitat Oberta de Catalunya	Spain	32
The Open University	United Kingdom	22
Hong Kong Polytechnic University	Hong Kong	19
The University of Sydney	Australia	18
University of Wollongong	Australia	17
University of Tasmania	Australia	15
Australian Catholic University	Australia	14
Al Qassim University	Saudi Arabia	14
Charles Sturt University	Australia	13
Tampere University	Finland	13

TP= Total Publications

(RQ4) What are the major research keywords concerning online learning, and university teachers?

For the bibliometric analysis of the most used keywords, "Co-occurrence" was selected as the analysis type, and "Authors keywords" was marked as the unit. In this context, 400 keywords have been identified from the data set For the bibliometric analysis of the most used keywords, "Co-occurrence" was selected as the analysis type, and "Authors keywords" was marked as the unit. In this context, 400 keywords have been identified from the data set; the most used keywords, the most cited and published journals, the journals that published the most studies on the subject, the countries that did the most studies on the subject, the publication cooperation between countries, the keywords used and the relationship between them, the most cited authors, the relationship between the authors, the journals that were jointly cited and the most published areas were examined (Abuhassna et al., 2022b). the VOSViewer software, one of the widely used programs in visualizing bibliometric networks, was used to reveal the network visualization in the analysis. online learning has evolved into a compelling research area with growing research numbers. Thus, it is required to investigate the thematic structure of such a study area by utilizing an accurate machine learning method that could spontaneously examine sizeable, documented literature data (Abuhassna et al., 2022b). Then, the current research is being carried out to help provide insights concerning what has been discussed and the trends in online learning., as shown in Fig 6.

Fig 6: co-occurrence between all keywords and authors




When Figure 6 and table5 were examined, the keywords used in the studies listed as teaching " (Occurrences "Oc" = 433), " and the total link strength (TLS) that indicates the relationship between authors and keyword "(3769)", the e-learning" (Oc = 499), " , and (TLS) that indicates the relationship between authors and keyword " (3767)". Students " (Oc = 422), and the total link strength (TLS) that indicates the relationship between authors and keyword"(3552)". Education " (Oc = 193), and the total link strength (TLS) that indicates the relationship between authors and keyword "(1833)". Curricula " (Oc = 163) and the total link strength (TLS) that indicates the relationship between authors and keyword"(1472)"and online learning" (Oc = 238) and the total link strength (TLS) that indicates the relationship between authors and keyword"(1171)". These were followed by Teaching, E-Learning, Students, Education, Curricula, Online Learning. When the keywords of the publications are examined, it is seen that approximately 64.9% (n = 649) use words such as online learning and univesty teachers. In addition, those keywords such as teacher, distance education, education computing, and humans are less preferred in bibliometric analysis

Table 5

List of top Occurrences in online learning university teachers research area

Create Map ✕

 **Verify selected keywords**

Selected	Keyword	Occurrences	Total link strength ▼
<input checked="" type="checkbox"/>	teaching	433	3769
<input checked="" type="checkbox"/>	e-learning	499	3767
<input checked="" type="checkbox"/>	students	422	3552
<input checked="" type="checkbox"/>	education	193	1833
<input checked="" type="checkbox"/>	curricula	163	1472
<input checked="" type="checkbox"/>	online learning	238	1171
<input checked="" type="checkbox"/>	human	72	1066
<input checked="" type="checkbox"/>	higher education	219	1053
<input checked="" type="checkbox"/>	covid-19	190	1013
<input checked="" type="checkbox"/>	engineering education	116	993
<input checked="" type="checkbox"/>	computer aided instruction	103	952
<input checked="" type="checkbox"/>	learning systems	101	932
<input checked="" type="checkbox"/>	social networking (online)	93	879
<input checked="" type="checkbox"/>	surveys	95	856
<input checked="" type="checkbox"/>	blended learning	145	827
<input checked="" type="checkbox"/>	learning	86	826
<input checked="" type="checkbox"/>	humans	52	804
<input checked="" type="checkbox"/>	education computing	87	779
<input checked="" type="checkbox"/>	distance education	98	621
<input checked="" type="checkbox"/>	teacher	43	596

Discussion

According to the 2280 research publications collected from the Scopus database, this study presents an overview of the "online learning university teachers" review utilizing content analysis and bibliometrics. This trend analysis of the study reveals an increasing interest in online learning especially in the university teaching research field as a promising of study. Such an analysis of the publishing sources indicates that online learning is mostly welcomed by interdisciplinary fields concentrating on the relationship of technologies and their implications in education in general. In this study, the top 10 countries were selected among 115 countries that had research published in the Scopus database between (2011-2021) with great interest in the fields of online learning and university teaching. The advanced countries still rank first terms in the interest in e-learning and online learning, such as America, Australia, and China. while the interest was very shying by developing countries in the field of education development from the traditional learning "face to face" which recedes in classrooms of school buildings and universities, to e-learning and online learning. that makes these countries delay in developing the educational process and educational curricula to procession with modern electronic developments. This is what we noticed during the Corona pandemic. Where there were very great sufferings for teachers in all disciplines in preparing,

designing, and developing teaching curricula from traditional education and converting to electronic education to use in online learning and suddenly. Therefore, the governments of developing countries should direct their universities to attention to increasing scientific and educational research that contributes to the design and development of traditional curricula and converting them into electronic curricula that can be used in online learning.

Results

When were researched the subject "online learning university teachers" in the Scopus database, the number of documents that were found was 2280 documents. Distributed in 115 countries that are interested in researching and developing fields of "online learning education in their universities". Were chosen the first 10 countries from the table that contains 115 countries, which had the greater number of published papers in the field of "online learning university teachers", To know the importance of online learning and which countries are most of interested and developed in this field. The results as shown in Fig7, and table 6. The number of published research was (322), and a percentage of 23.16% of the literature analyzed in the Scopus database concerning "online learning university teachers" The United States topped the list of countries in the world in the number of research published during the past decade, which indicates the extent The growing interest by American universities in online learning and university teachers. It was followed by Australia, where the number of published research (234) with about 17% of the literature analyzed concerning "online learning university teachers", then China was in the third rank of the world in terms of the number of research published on the same subject with (183) publications about 13.16%, while Spain in the fourth rank in the number of publications for scientific research (163), with a percentage of about 12%. As shown in the table, the United Kingdom's interest in "online learning university teachers" in the last decade has not been serious, as it occupied the fifth position in the number of literary publications by "146" during the past ten years, a percentage of 10.5%. while the Kingdom of Saudi Arabia ranked ninth in terms of the number of research papers published about (60) research papers, with a percentage of 4%, and Italy's (55) research papers, with a percentage of 4%, occupied the last ranking on the list in terms of the number of published researches. Fig7 and table 6 conclude that the interest in "online learning university teachers" in relation to teachers in universities receives a very wide interest from universities in developed countries such as (America, Australia, China, and Spain), while the interest was very modest in relation to the scientifically developing countries. As shown in table 6 and fig7. This is mean that there is no serious interest from Saudi and Italian universities for online education, or university educators do not have the efficiency or efficiency of little in e-learning and online education. Therefore, such countries must draw serious attention to scientific and literary research, by following up and increasing the number of research published by them to keep pace with the developments of the times.

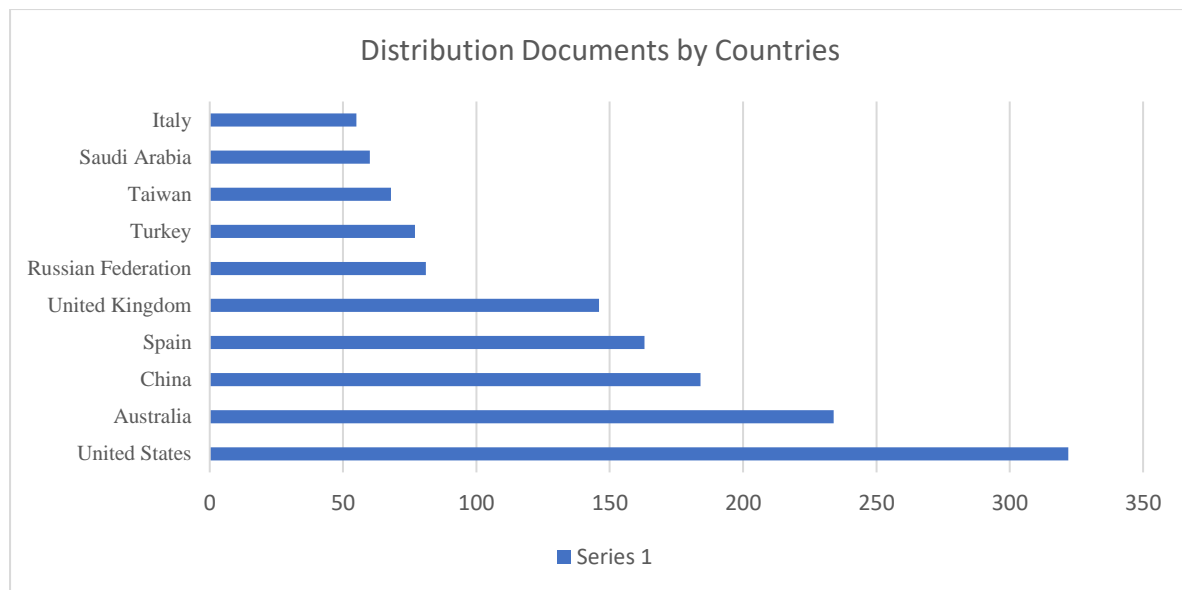


Fig7 Distribution Documents by Countries

Table 6

Distribution of countries based on the preparation of their published research in the field of online learning among (2011-2021)

Rank	Country	Total publications
1	United States	322
2	Australia	234
3	China	184
4	Spain	163
5	United Kingdom	146
6	Russian Federation	81
7	Turkey	77
8	Taiwan	68
9	Saudi Arabia	60
10	Italy	55

Conclusion and Implications

The digital world has entered all areas of life, which has contributed to increasing energy and speed of production in all sectors of life, and one of the most important of these sectors is higher education, as it contributed to the switch of learning from traditional to intelligent learning. To detect the research topics and their dynamics in the online learning readiness research area, this paper conducts analyses in 2280 online learning readiness publications using bibliometrics and content analysis. The distribution of the annual number of online learning readiness publications reflects this research field's dramatically increasing interest. Such active research on online learning readiness indicates a promising future development trend. Interdisciplinary journals focusing on the relationship between learning and technology are involved in online learning readiness research. The USA was the most productive country and institution publishing online learning readiness research. Global collaborations can contribute to more useful scientific performance. Phrases such as "online learning readiness," "technology high learning," "university teaching," "online learning teachers," and "E-learning platforms" are commonly used and mentioned in online learning readiness publications.

Predominant research topics include "technology integration," "Blended learning," and "educational technology research". Most subjects, including online education, Blended learning, students' achievements, satisfaction, autonomy, and technology in education, have received significantly increasing attention from scholars devoted to online learning research.

Limitation

There are limitations to this research. Initially, the Scopus database only has been used for data collection. Thus, it does not cover all academic journals. Consequently, journals from another database, for example, the WoS, may not have been included in this analysis. Moreover, the most recent publications for 2022 in Scopus were disregarded. Nonetheless, such limitations are not likely to impact the trends and patterns identified in this research. Additionally, only "online* learning*" and "university* teachers*" as search terms have been used in retrieving data. Though using specific search terms can result in a less data set. All coming technologies which can be used for accomplishing online learning were considered, including "online* learning*," "blinded* classroom*," "learning analytics," "educational technology*," "education settings," and "online education." Therefore, using more specific search terms were used in this analysis ("online* learning*" and "university* teachers*"), focusing on the realization of online learning readiness instead of the prospective methods that could be involved

References

- Agarwal, S., & Kaushik, J. S. (2020). Student's Perception of Online Learning during COVID Pandemic. *Indian Journal of Pediatrics*, 87(7), 554. <https://doi.org/10.1007/s12098-020-03327-7>
- Jandric, P. (2020). Postdigital Research in the Time of Covid-19. *Postdigital Science and Education*, 2(2), 233–238. <https://doi.org/10.1007/s42438-020-00113-8>
- Agapiou, A., & Lysandrou, V. (2015). Remote sensing archaeology: Tracking and mapping evolution in European scientific literature from 1999 to 2015. *Journal of Archaeological Science: Reports*, 4, 192–200. <https://doi.org/10.1016/j.jasrep.2015.09.010>
- Karatas, K., & Arpacı, I. (2021). The Role of Self-directed Learning, Metacognition, and 21st Century Skills Predicting the Readiness for Online Learning. *Contemporary Educational Technology*, 13(3). <https://doi.org/10.30935/cedtech/10786>
- Nur Hidayat, W., Suswanto, H., Wijaya Kristanto, C., Pramudya Wardhani, A., Hamdan, A., & Kartika Sari, R. (2020). The Effectiveness of Interactive Digital Evaluation Training for Improving Teacher Skills in the Covid-19 Pandemic Period. 2020 International Conference on Vocational Education and Training (ICOVET). <https://doi.org/10.1109/ICOVET50258.2020.9230070>
- Tober, M. (2011). Which is the best search engine for an effective literature research in laser medicine? *Medical Laser Application*, 26(3), 139–144. <https://doi.org/10.1016/j.mla.2011.05.006>
- Martí-Parreño, J., Méndez-Ibáñez, E., & Alonso-Arroyo, A. (2016). The use of gamification in education: a bibliometric and text mining analysis. *Journal of Computer Assisted Learning*, 32(6), 663–676. <https://doi.org/10.1111/jcal.12161>
- Hassan, A., Freed, A., Kawthar, B., Diaya Uddeen, A., Ahmed, H. A., & Noraffandy, Y. (2022a). Understanding Online Learning Readiness among University Students: A Bibliometric Analysis. *International Journal of Interactive Mobile Technologies (IJIM)*, 16(13), 81–94. <https://doi.org/10.3991/ijim.v16i13.30605>