

# Bibliometric Analysis of Distance Education from 2010 to 2020 in Scientific Journals of Saudi Universities

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## Abstract

The study aimed to analyze the trends of distance education research published in scientific journals in Saudi universities from 2010 to 2020 through several aspects, such as; the contribution percentage of universities, magazines, prevailing authorship patterns, research methods, the percentage of male and female contribution, and the research tools used. The study used the bibliometric analysis method and the content analysis card. The study sample consisted of (15) researches in the field of distance education published in (11) journals belonging to ten Saudi universities during the period (2010-2020). The results showed that (10) universities had contributions to distance education research, (11) scientific journals contributed to the dissemination of distance education research, the individual authorship pattern was (66.7%), and the descriptive analytical method was employed in (13) by (86.7%); most of the researchers are males with the percentage of (66.7%), and that the questionnaire was the main research tool by (73.3%). The results showed that the year (2020) was the most published year for distance education research (26.7%). Through the analysis of distance education research, it was found that there are several research gaps, the most important of which is a clear lack of interest in publishing distance education research in scientific journals in Saudi universities and research focus on the descriptive analytical approach. The study recommended increasing the interest of researchers in various Saudi educational institutions to publish distance education research in scientific journals in Saudi universities and not being limited to a specific research methodology.

**Keywords:** Distance education, Scientific journals, Researches Trends, Saudi Universities, Distance education research.

## INTRODUCTION

Refereed scientific journals are considered one of the windows to publish research and one of the best sources of knowledge that researchers can refer to enrich their research and scientific work because they contain what is new in the field of specialization for the researcher. (Saleh et al., 2021) indicates that scientific journals are reliable sources of scientific communication and a tool for transferring scientific and research knowledge, and they serve as closed environments for discussions. Research and scientific studies are also one of the basic functions of universities and are considered one of the most important priorities of many universities. Accordingly, these researches need specialized vessels for dissemination and benefit from them (Al-Subaie, 2018).

In a related context, scientific research is an inevitable necessity for development and prosperity, as many countries attach great importance to scientific research as one of the most important pillars for the advancement of their societies in various fields and are aware of the extent of its contribution to achieving development, prosperity, and well-being. Therefore, these countries are making efforts to advance scientific research and improve its levels. The more efforts and money countries exchange, the more positive the impact will be on the individual and society as a whole (Bin Zayed, 2022).

The fields of scientific research vary to cover all aspects of human activity. Among these fields is educational research, which is an important part of the scientific research movement, as this field increases understanding of educational phenomena

and helps in finding the best solutions to the problems facing educational institutions (Al-Astal, 2015).

(Al-Omari & Nawafleh, 2011) believes that educational research is an integral part of scientific research, as it is based on the principles and components on which scientific research is based in general. The need for educational research appears today more than ever, as a result of the rapid changes and developments that we are witnessing from globalization, the explosion of knowledge, the advancement of information and communication technology, and the role of educational research is necessary to obtain accurate knowledge that ensures development and appropriate modification in the educational field.

There is no doubt that educational scientific research is an essential pillar of distance education, as researchers' orientation has increased significantly towards publishing research related to distance education, especially since the

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beginning of the current decade and the accompanying spread of the Covid 19 virus, and the majority of countries in the world are moving towards education via distance learning. Scientific research in the field of distance education currently plays a major role in laying the foundations of this science, its theories, and philosophy due to its current role in supporting the educational process of learning in society. (Al-Kalthami, 2021) indicates that distance education is an important research field, as it is a learning system based on its principles in two main directions, namely the philosophical orientation and the technological orientation. Distance education is also one of the latest global trends in university education (Al-Ahmad and Al-Faraih, 2017). Since the advent of personal computers and then the invention of the Internet, distance learning has been a hot topic in research and scientific practice for several decades, as distance learning employs telecommunications technologies to deliver knowledge for the purpose of training and learning (Choudhury & Pattnaik, 2020).

The process of teaching and learning focuses on having an increase in effectiveness in order to achieve the goals to be achieved, especially with the rapid development in the world of information technology and its penetration into various aspects of human life, and its use in the teaching and learning processes of distance education. This has led and will lead to significant changes in the educational process, whether in terms of the education system that will be developed, the materials that will be provided, the teaching-learning strategies, or even in terms of the obstacles that will be faced by the learners receiving distance education (Deti & Mandasari, 2021).

In recent decades, millions of learners from different countries of the world have benefited from distance education, and countless teachers, technicians, Internet, and computer experts have dedicated themselves to making distance education more convenient for teaching and learning. These endeavors, combined with rapid advances in web, multimedia, and Internet technologies, have transformed distance education, making it a dynamic and rapidly developing discipline (Fraihat, 2022; Djeki et al., 2022). Distance education is considered a modern phenomenon of education as a result of rapid developments in information technology, as distance education includes the process of separating teachers and students and scientific courses in the educational environment. Distance education also transfers the normal environment of education to multiple environments in time and space (Mahasneh et al., 2021).

The trend toward relying on distance education, especially at the present time, is imposed by modern educational methods that aim to reach a virtual interactive environment via the Internet that allows the student and teacher to meet through it. And the Internet contains a set of

activities similar to the activities of the traditional classroom that the teacher and his students carry out, separated by geographic and temporal boundaries, and they learn together regardless of where and when they are (Hussain, 2021; Hassan et al., 2022). It was also imposed by the repercussions that were reflected on education as a result of the outbreak of the Covid-19 virus, whose delusion dominated the education sector by pushing educational institutions to close their doors to students and switch to distance education in many countries of the world, as an alternative to education in its traditional form (Al-Hussaini, 2020; Salmani et al., 2022).

The number of studies and research on distance education over the past two decades has witnessed a significant expansion. As a result, researchers and academics conducted scientific research that addressed distance education from different points of view, which led to the emergence of a variety of topics related to distance education that were discussed in this research. Scientists from different backgrounds have also added their own expertise to distance education research, making distance education research one of the most fruitful and dynamic in all scientific communities (Rodrigues et al., 2019).

Also, research in the field of educational technology and distance education is one of the fields of educational research, as this field has witnessed great development during the last period of the twentieth century and the beginning of the twenty-first century. It has been observed a significant increase in the amount of research conducted in the field of educational technology and distance education at the local and global levels. And this increase is not only in quantity but also in quality, as the research methods used in them varied, and the variables that were addressed, whether they were independent variables or dependent variables, varied, and the study stages in which these researches were conducted varied. The fields of this research also varied (Bani Doumi, 2018).

Studies and research in the field of distance education also seek to identify the problems and issues that are controversial in the field of distance education and are studied systematically and scientifically accurate. And then propose appropriate solutions to solve and treat it and provide recommendations and proposals that benefit those concerned to take appropriate decisions in the field of distance education (Smani et al., 2022)). In addition, this research shows what the research gaps that have not been addressed are.

The study of Fatima and Abu (Fatima & Abu, 2019) showed that the total number of distance education research published in the Web of Science database from 1989 to 2018 amounted to (9826) research, and Das study (Das, 2021) showed that the total The distance education research published in the Scopus database from 1970 to 2020, numbered (27,979) searches.

As an important scientific discipline, distance education has a long history of scientific research. Researchers have

kept pace with the development of distance education from a computer-based distance education system to a multimedia environment and to learning based on web technologies (Choudhury and Pattnaik 2020).

Various forms of information and communication technologies have also been integrated into distance education practices, such as social media, augmented/virtual reality, 3D, and wearable devices (Chou et al., 2019). In light of this, it is clear that the rapid and continuous progress of educational technologies has led to the development of distance education practice and research, which may also lead to the emergence of new research topics that overwhelm the old research topics in distance education so that with the passage of time they lose much of their importance (Zhong et al., 2019). In addition, the use of information technology such as e-learning, which is done through web-based learning, will bring about significant changes both in terms of the education system that will be developed, the materials that will be provided, how the educational and educational processes will be and the obstacles that will be faced by the recipients of education and educators (Deti & Mandasari, 2021).

The rapid progress in the topics of scientific research in the field of distance education and its development over the past decades, along with the calls for the necessity of studying how knowledge is accumulated in this field, in addition to the demands for the necessity of identifying the most important research topics in the field of distance education, has increased the need To conduct studies dealing with distance learning trends in scientific research (Zhong et al., 2019).

Thus, the current research can serve as an important guide for documenting the development of scientific research in distance education, and identifying new research trends for new researchers, especially with the presence of many local and regional studies that dealt with scientific research trends in various fields, with their scarcity in the field of distance education. In addition to the existence of many studies that dealt with scientific research trends in distance education in environments outside the local and regional framework.

According to the foregoing, in the context of indirect studies in distance education research, Al-Astal (2015) conducted a study with the aim of determining the trends of research curricula and teaching methods in graduate studies completed in Palestinian universities from the period 2000-2013. The study reached several results, the most important of which is that (97%) of the research was quantitative, and only (2%) was qualitative, in addition to that (1%) of the research used the mixed method (quantitative and qualitative), and the results showed that (57%) Of the research, it was experimental research, while (43%) was descriptive research. The results also showed that 46.56% of the research used two tools for data collection, while (35%) of them used one tool. As for the methods of statistical analysis, the results showed that (92%)

of the research used simple inferential statistics methods, and (8%) of them used advanced methods in inferential statistics.

In a context related to distance education research, (Zawacki-Richter & Naidu, 2016) conducted an analytical study of the trends of topics in distance education research during 35 years of publications in the Journal of Distance Education. The titles and summaries of 515 full research papers were analyzed, and the study found that most of the topics focused on instructional design and instructional technology, quality assurance, support for student learning in the early stages via the Internet, virtual university, cooperative education, interaction patterns, and interactive learning.

The study of Bani Doumi (2018) aimed to analyze the content of master's theses specialized in the science of educational technology and the license at the universities of Yarmouk and Jordan during the period (1983-2013) in the light of the following research variables: the university and the gender of the student researcher, the educational topics addressed by these messages, and the variables The dependents that you covered, the research methods you used, as well as the study communities you covered. The study sample consisted of (217) master's theses, of which (145) were from Yarmouk University and (72) were from the University of Jordan. The results of the study showed that male students outperformed females in terms of their interest in graduate studies in the science of educational technology and that the topics that were most concerned with the messages were: computer and educational software, educational technology, the Internet, and websites, e-learning, and information and communication technology, respectively. With regard to the dependent variables, the results of the analysis showed that the achievement variable received the most attention, followed by the reality of use, then the trends, and the competencies. And that there are some variables that did not receive sufficient attention, such as: creative thinking, critical thinking, mathematical thinking, and problem solving. The results showed that descriptive research is the most used in the analyzed messages, followed by empirical research and then the case study.

The study of Al-Qahtani and Al-Shehri (2019) aimed to identify the applied gap in scientific research trends in curricula and teaching methods according to the methodology of their study by identifying what the gaps are and the applied scientific gaps in curricula and teaching methods. Research related to the topic of scientific gaps and applied scientific gaps in curricula and teaching methods. The research concluded that there is agreement among researchers on the most prominent scientific application gaps in curricula and teaching methods, the most important of which is the widespread use of the descriptive approach and the lack of experimental research. There are also many scientific kinds of research that are dominated by repetition, which leads to a

lack of creativity and originality, and there are no integrated plans and a clear vision for the research path. Accordingly, the researcher developed a set of proposals to fill these gaps. It recommended a set of recommendations, the most important of which are: reducing the use of the descriptive approach in master's and doctoral research, increasing the use of the experimental method, making integrated plans and a clear vision for the research submitted by graduate students in the field of curricula and teaching methods, and touching the real research needs that the educational field needs, and trying Bridging the gaps between the researcher and the practitioner in the educational field; Among the decision makers in the educational process, the inclusion of a database of research titles and fields, and the urge to encourage students to apply scientific research at international levels.

The study of Fatima & Abu (2019) aimed to explore and identify trends in distance education research at the global level. Data were collected from the Web of Science database covering the period 1989-2018 in order to identify the substantial contributions that have been published in the field of distance education. A total of 9,826 records were retrieved. The data was analyzed to reveal various trends prevalent in e-learning research, including contributing countries, approved authorship patterns, degree of collaboration, notable sources of research publication, citation trends such as citations received/citations per paper, etc. The results revealed a positive growth in distance education research, and researchers from the United States of America and the United Kingdom contributed more than half of the research output. The period from (2013-2017) witnessed the publication of the largest number of research with a publication of (3497) research, and these researches were cited (118,938) times, and it was found that Computers & Education magazine ranked first with a total number of publications with 610 titles, with 25,038 citations.

While (Anymir & Vanaja, 2019) conducted a study on the trends of distance education research published in the years from 2002 to 2017. The results showed that most of the articles (54%) dealt with research areas related to education and learning in distance education, and that 14% of the research dealt with areas related to systems and theories of distance education, and that 20% of the research dealt with areas related to management, organization, and technology. Twelve were also classified percent of articles as dealing with other areas that are not clearly identified.

And (Valverde-Berrocoso et al., 2020) conducted a study, the aim of which was to conduct a systematic review of previous literature in the field of distance education in the following aspects: (a) research topics; (b) the most relevant theories; (c) the most frequently researched methods; (d) Research methodologies used. To this end, research papers were selected from three journals indexed in JCR-SSCI specialized in educational technology, and the final study

sample consisted of 248 papers. The results showed that there were three main themes on which the research focused: online students; online tutors; and interactive learning environments in the curriculum. It turned out that the technology acceptance theory was the most used theory in the studies analyzed and that the case study method was the most common one.

Al-Enezi's study (2021) aimed to identify educational research trends in social studies curricula in Gulf refereed journals during the period (2008-2018). The study used the content analysis method, and a card was used to analyze (99) refereed papers in social studies curricula, which were published in (33) Gulf refereed journals. The study concluded a number of results, the most important of which are: In the field of methodological trends: most of the scientific production is directed towards the descriptive method, then the experimental method. The most widely used tools were achievement tests, then questionnaires. The results of the study revealed that most of the researchers were males. Scientific production also focused on the study of general education, then university, and the intermediate stage was the most targeted stage of public education.

The study by (Das, 2021) aimed to provide a general conception of the main developments and trends of research published in "distance education" since 1970 in terms of identifying the most productive authors, leading institutions in distance education, countries most interested in publishing distance education research and the main aspects on which this research focuses. Data were retrieved from the Scopus database from 1970 to 2020 using similarity visualization software (Vosviewer). 27,979 papers published during this period were analyzed, and the results concluded that the most topics covered by journals in the field of distance education were: "digital learning", "e-learning", "virtual learning", "mobile learning", and "Web-based learning, e-learning, and online learning.

Bai et al. (2021) conducted a study that sought to provide a comprehensive understanding of the evolution of research topics and key trends in distance education research. A common keyword analysis was applied to analyze 21,656 keywords collected from 7,214 articles published in 10 journals in the field of e-learning from 1999 to 2018. The results showed that e-learning research has witnessed a positive development during the past two decades and that there is temporal continuity in the publication of research online education. Also, some research topics have maintained continuity over the twenty years analyzed, and research topics in the field of distance education have constantly evolved with the development of new technologies.

Maulana and others (Maulana et al., 2021) conducted a study with the aim of analyzing the scientific trends in distance education in the research published in the Scopus database by country, researcher specialization, number

of authors, and research areas. A review of 218 academic documents was published over a ten-year period from 2011 to 2020. The analysis process was carried out in five phases: search keywords, primary search results, refinement of search results, preliminary assembly, and data analysis. The results showed that Chinese researchers published the largest number of research papers with 36 academic papers, followed by the United States with 18 academic papers and Italy with 16 academic papers. The results showed that there are research gaps that future researchers must fill, such as diversification in the research methods used and in the topics that are raised.

Also (Mishra et al., 2021) conducted a study of the trends of distance learning research via the Internet during the Corona pandemic, where the results concluded that most of the studies used quantitative methods with a percentage of 43.64%, followed by qualitative methods with a percentage of 13.33%, followed by mixed methods by 9.09%. Also, 33% of the studies did not refer to the research methodology that was employed. The results showed that the subject of distance education is the most widely used to express distance education. The research also covered a wide range of teaching and learning issues related to distance education, with a focus on teaching and assessment techniques, teachers' capabilities, and institutional readiness.

The study (Djeki et al., 2022) aimed to comprehensively analyze distance education research by conducting a bibliometric analysis of (12,272) papers published between 2015 and 2020 from the WoS database and highlighting the collaborations between authors, universities, and countries in this field, identifying the authors, universities and most influential countries, and research topics in distance education that researchers have been interested in recent years. The results showed that the United States of America, Spain, England, and China are the most productive countries in distance education research, and the results also showed that the Journal of Computers in Human Behavior and the Journal of Computers & Education are among the most representative journals for research, The Islamic Azad University and King Abdulaziz University are among the most influential universities. The results of the analysis showed that cooperation between authors, universities, and countries working in the field of distance education was low and that the COVID-19 virus has a significant impact on distance education research. In this context, the main purpose of this study was to determine the trends of distance education research published in scientific journals in Saudi universities during the period from 2010 to 2020. Based on the general frameworks of the research purpose, there is a need to provide answers to the following key questions:

1. What is the percentage of universities' contribution to distance education research published in scientific journals in Saudi universities?

2. What is the percentage of journals' contribution to distance education research published in scientific journals in Saudi universities?
3. What are the prevailing authorship patterns in distance education research published in scientific journals in Saudi universities (individually, collectively)?
4. What are the methods used in distance education research published in scientific journals in Saudi universities?

### The Problem of study

The process of switching to distance education has become an urgent process in the current era to maintain the continuity of education and its continuity. The education sector is the sector most affected by the repercussions of the Covid-19 virus crisis, which caused the closure of schools and other educational and training institutions, and poses a threat to the future of learners at various stages and their level of learning, which imposed the inevitability of moving towards distance education in various sectors of education. Consequently, this was clearly reflected in the increased interest in research dealing with distance education, especially with the attention of many scientific disciplines, such as distance education, to the importance of scientific research in distance education, and made it a stage for many conferences, discussions, and research, which necessitated the necessity of conducting a study dealing with distance education trends, especially in the pre-pandemic period, to determine the impact of some variables on the trends of distance education research, such as: the curriculum used, the year of publication, research tools, and other variables. Many studies, such as the study (Bani Doumi, 2018), concluded that scientific research in distance education in the Arab region needs concerted efforts more than before in order to improve its status and level in line with the progress and development currently taking place in the world. Therefore, the problem of the current study was to determine the directions of distance education research published in scientific journals in Saudi universities during the period from (2010 - 2020).

### Research Questions

The current study attempted to answer the following main question: What are the trends of distance education research published in scientific journals in Saudi universities during the period from 2010 to 2020? This is done by answering the following sub-questions:

1. What is the percentage of universities' contribution to distance education research published in scientific journals in Saudi universities?
2. What is the percentage of journals' contribution to distance education research published in scientific journals in Saudi universities?

3. What are the prevailing authorship patterns in distance education research published in scientific journals in Saudi universities (individually, collectively)?
4. What are the methods used in distance education research published in scientific journals in Saudi universities?
5. What is the percentage of male and female contribution to distance education research published in scientific journals in Saudi universities?
6. What are the instruments used in distance education research published in scientific journals in Saudi universities (individual, group)?
7. What are the areas related to distance education in distance education research published in scientific journals in Saudi universities?
8. What years were the distance education research published in scientific journals in Saudi universities?
9. What is the gender of distance education research samples published in scientific journals in Saudi universities?
10. What is the nature of the categories of distance education research samples published in scientific journals in Saudi universities?
11. What are the research gaps according to trends that have not been addressed in the published distance education research?
8. Clarifying the years in which distance education research published in scientific journals in Saudi universities was published.
9. Determining the gender and categories of distance education research samples published in scientific journals in Saudi universities.
10. Identifying research gaps according to trends that have not been addressed in published distance education research.

### The Significance of the study

The researcher hopes that the current study will be a new addition and a reference for educational scientific production in the field of distance education by shedding light on the reality of distance education research published in scientific journals in Saudi universities.

The current study is expected to contribute to directing researchers' attention to issues and topics related to distance education that need further study and research in order to avoid scientific waste and to avoid the repetition of research published in distance education.

The current study is the first and the only one, to the researcher's knowledge, at the Saudi and Gulf levels which dealt with scientific production in distance education published in scientific journals in Saudi universities.

### OBJECTIVES OF THE STUDY

The current study attempted to achieve the main goal, which is to determine the directions of distance education research published in scientific journals in Saudi universities during the period from 2010 to 2020, where the following sub-objectives branch out:

1. Determining the percentage of universities' contribution to distance education research published in scientific journals in Saudi universities.
2. Determining the percentage of journals' contribution to distance education research published in scientific journals in Saudi universities.
3. Determining the prevailing authorship patterns in distance education research published in scientific journals in Saudi universities (individual, group).
4. Determining the research methods used in distance education research published in scientific journals in Saudi universities.
5. Clarifying the percentage of male and female contribution to distance education research published in scientific journals in Saudi universities.
6. Identify the research tools used in distance education research published in scientific journals in Saudi universities.
7. Determining the areas related to distance education in distance education research published in scientific journals in Saudi universities.

### The limits of the study

- **Objective limits:** The study was limited to analyzing the trends of distance education research published in educational scientific journals in Saudi universities.
- **Spatial limits:** The study was limited to educational scientific journals in Saudi universities.
- **Time limits:** The study was limited to distance education research published in scientific journals in Saudi universities during the period (2010-2020).

### Terms of the study:

#### 1. *Scientific Research:*

Scientific research is defined as a specific method or method for examining facts. It is based on a set of criteria and standards that contribute to the growth of knowledge. Research is achieved when its facts are subject to analysis, logic, experiment, and statistics, which helps growth and progress (Frijat, 2020).

#### 2. *Distance education:*

Distance education is defined as the process of transferring knowledge, skills, and experiences to the learner through electronic means through the educational institution so that students can communicate with their teacher or with each other at any time according to their abilities and preparations (Al-Akhras, 2018).

Distance education is defined as a prescriptive tool that provides knowledge and helps facilitate learning using a digital device or web technology (Qiu et al., 2022). Distance education is also defined as an educational system or concept or a learning process that uses information technology in the teaching and learning process at any place and time (Maulana et al., 2021).

### 3. *Bibliometric Analysis Methodology:*

It means the curriculum that depends on the quantitative description of the material written in distance education research published in scientific journals in Saudi universities and its classification using mathematical and statistical applications in order to investigate the trends of this research.

## METHOD

### The Study Approach

The researcher used the bibliometric analysis method to provide a quantitative description of distance education research published in scientific educational journals in Saudi universities from the period (2010-2020) based on the methodological and objective trends identified in this study. As a result, data on the number of papers published by an

organization or a nation, research teams, or people with the highest scientific production may be found.

### Population

The society is represented by all the scientific journals at the Saudi University in the field of education and social sciences, which number (20) scientific journals. The number is assumed to provide enough data that is required by the researcher.

### The study sample

In the light of the survey of the subject of the study in scientific journals, it was found that distance education research was published in (11) scientific journals during the period (2010-2020), the number of which was (15) research, according to the Table 1.:

### The study instrument:

The card was used to analyze the content of distance education research published in scientific journals in Saudi universities, which was prepared by the researcher in light of his practical experience. And by referring to previous studies similar in their objectives to the current study, where the analysis card included the following elements: universities, journals, authorship patterns, research methods, male and female

**Table 1:** Shows the research sample of the study

<i>Date of publication</i>	<i>Research title</i>	<i>Journals</i>	<i>No</i>
2010	Efficiency analysis of technical design for distance teacher training programs in the Ministry of Education in the Kingdom of Saudi Arabia	King Saud University	1
2011	The use of television in women's distance education, a theoretical study	Taif University	2
2013	Affiliation assessment at Princess Nourah bint Abdulrahman University	Taibah University	3
2017	The philosophy of distance education and its objectives in Saudi universities from the point of view of faculty members	Northern Border University	4
2017	Educational services provided to students of developed affiliation at Imam Muhammad bin Saado Islamic University, an evaluation study	Imam Muhammad Bin Saud Islamic University	5
2018	The role of educational technology in distance education programs in faculties of education in Sudanese universities from the point of view of an educational technology specialist	King Faisal University	6
2018	The effectiveness of widespread open learning environments in developing educational attainment and motivation towards self-learning in a course based on project learning, and the level of university students' satisfaction with it.	Tabouk university	7
2018	Attitudes of faculty members in Saudi universities towards the role of distance training in developing their capabilities	Taif University	8
2019	Educational policies governing distance vocational training programs for male and female teachers in public education schools provided by universities in the Kingdom of Saudi Arabia	Al Qussaim university	9
2019	The attitudes of open education students towards the use of electronic tests and the difficulties of applying them at the Yemeni University of Science and Technology	Al Qussaim university	10
2019	The role of distance education in expanding the opportunities for deaf students to enter higher education: Available programs and the quality of service provided - the experience of the Arab Open University	Imam Muhammad Bin Saud Islamic University	11

<i>Date of publication</i>	<i>Research title</i>	<i>Journals</i>	<i>No</i>
2020	The nature of the challenges facing students with disabilities in Saudi universities to benefit from the distance education system during the Corona pandemic	Prince Sattam University	12
2020	The reality of distance education and electronic courses in light of the global challenges of the emerging corona pandemic on Northern Border University students from the point of view of faculty members, students and parents	Prince Sattam University	13
2020	The effectiveness of distance education in developing e-reading skills and self-learning skills and their relationship to the academic achievement of secondary school students	The Islamic University of Medina	14
2020	The experience of the Kingdom of Saudi Arabia in using distance education to meet the challenges of education in light of the Corona crisis	The Islamic University of Medina	15

contribution, research instruments, areas related to distance education, years in which research was published, samples Research, nature of research sample categories.

### The validity of the study instrument:

The validity of the study instrument was verified by presenting it to (5) expert arbitrators in the field of distance education, e-learning, measurement, and evaluation, and some modifications were made to the tool in light of their observations.

### PROCEDURES OF THE STUDY

The objectives of the current study were achieved by following the following procedures:

1. Referring to the websites of Saudi universities and identifying the scientific journals that published research related to distance education during the period (2010-2020).
2. Listing the distance education research in these journals, and get a copy of each of these research papers in the form of a PDF file.
3. Preparing the study tool and verifying its validity and reliability indicators.
4. Analyzing distance education research by collecting and discharging data according to the content analysis card, and then calculating the frequencies and percentages, then describing, analyzing, and interpreting those data.

### Data analysis

The data were collated and edited in order to address questions that have been raised by the study. It was necessary to observe this precaution to ensure quick detection of tiny errors when they occur in the tabulation of the data. Findings to the various items of the study objectives were added, tabulated, and statistically analyzed. All research questions were analyzed using frequencies and percentages. The data was presented in the form of tables. This information was then interpreted, and

**Table 2:** Percentage of universities' contribution to distance education research published in scientific journals in Saudi universities

<i>%</i>	<i>Frequencies</i>	<i>the University</i>	<i>No</i>
13.3%	2	The Islamic University of Medina	1
13.3%	2	Imam Muhammad Bin Saud Islamic University	2
13.3%	2	Prince Sattam University	3
13.3%	2	Taif University	4
13.3%	2	Al Qussaim university	5
6.7%	1	Northern Border University	6
6.7%	1	King Saud University	7
6.7%	1	King Faisal University	8
6.7%	1	Tabouk university	9
6.7%	1	Taibah University	10
<b>100.0%</b>	<b>15</b>	<b>Total</b>	

these findings were observed to find out whether they were convergent or divergent with the empirical studies.

### RESULTS AND DISCUSSION:

1. **What is the percentage of universities' contribution to distance education research published in scientific journals in Saudi universities?**

The study sought to identify the percentage of universities' contribution to distance education research published in scientific journals in Saudi universities. The findings are presented in table 2.

The results of the table show the presence of (10) Saudi universities that contributed to the publication of (15) research on distance education research during the period from (2010-2020), i.e., an average of one and a half research for each university. There were five universities, each of which contributed to the publication of two research papers: the Islamic University of Madinah, Imam Muhammad bin Saud Islamic University, Prince Sattam University, Taif University, and Qassim University, while the remaining five universities



contributed one research from distance education research. This result indicates the weak interest of Saudi universities in publishing distance education research in their scientific journals. This may be due to the lack of specialists on the one hand and the lack of research related to distance education that is presented to these universities or that the research presented does not comply with the specified standards. This is not in line with global trends in this field, as the number of studies and research on distance education over the past two decades has witnessed a significant expansion, which has led to the emergence of a variety of topics related to distance education that are discussed in this research, making education research Remote research is one of the most fruitful and dynamic of all scientific communities (Rodrigues et al., 2019). The study by Fatima and Abu (Fatima & Abu, 2019)) showed that the total number of distance education research published in the Web of Science database from 1989 to 2018 amounted to (9826) research, and Das study (Das, 2021) showed that the total The distance education research published in the Scopus database from 1970 to 2020, numbered (27,979) searches.

## 2. What is the percentage of journals' contribution to distance education research?

Table 3 presents the data on the findings of the Percentage of journals' contribution to distance education research

The results of the table show that there are (11) journals affiliated with Saudi universities that contributed to the dissemination of distance education research during the period from (2010-2020), i.e., at a rate of less than one and a half research for each journal. There were four journals, each of which contributed to the publication of two research papers: the Journal of the Islamic University of Educational and Social Sciences, the Journal of Educational and Psychological Sciences affiliated to Qassim University, the Journal of Educational Sciences affiliated to Imam Muhammad bin Saud Islamic

University, and the Journal of Educational Sciences of Prince Sattam University, while the rest of the journals contributed The six research is one of the distance education research. It is a small number that does not live up to the hoped-for level of these journals in their interest in publishing research related to distance education. This contradicts the results of many studies, especially those conducted in a foreign environment. The study by Bai et al. (2021) showed that distance e-learning research has witnessed a positive development during the past two decades and that 7,214 articles were published in 10 journals in the field of e-learning from 1999 to 2018.

## 3. What are the prevailing authorship patterns in distance education research published in scientific journals in Saudi universities (individually, collectively)?

The table below shows the prevalent authorship patterns in distance education research published in scientific journals in Saudi universities (Table 4).

The results of the table show that the majority of distance education research published in scientific journals in Saudi universities had an individual authorship pattern of (66.7%), and the pattern of authoring (5) research was a collective pattern with a percentage of (33.3%), and the number of researchers in all of them was two researchers.

## 4. What are the methods used in distance education research published in scientific journals in Saudi universities?

Table 5 shows research methods used in distance education research published in scientific journals in Saudi universities

The results of the table show that distance education research published in scientific journals in Saudi universities focused mainly on the descriptive-analytical approach in (13) research at a rate of (86.7%). The documentary descriptive approach was used in (3) research at a rate of (20.0%), and the

**Table 3:** Percentage of journals' contribution to distance education research

%	Frequencies	Journals	
13.3%	2	Journal of the Islamic University of Educational and Social Sciences	1
13.3%	2	Journal of Educational and Psychological Sciences, Qassim University	2
13.3%	2	Journal of Educational Sciences, Imam Muhammad bin Saud Islamic University	3
13.3%	2	Journal of Educational Sciences, Prince Sattam University	4
6.7%	1	The Scientific Journal of King Faisal University, Humanities and Administrative Sciences	5
6.7%	1	Thesis of Education and Psychology, King Saud University	6
6.7%	1	North Journal of Humanities, Northern Border University	7
6.7%	1	Taif University Journal for Human Sciences	8
6.7%	1	Taif University Journal, Arts and Education	9
6.7%	1	Tabuok University Journal of Humanities and Social Sciences, Tabuk University	10
6.7%	1	Taibah University Journal, Educational Sciences	11
<b>100.0%</b>	<b>15</b>	<b>Total</b>	

**Table 4:** Prevalent authorship patterns in distance education research published in scientific journals in Saudi universities

%	Frequencies	authoring style	No
66.7%	10	Individually	1
33.3%	5	Collective (two researchers)	2
100.0%	15	Total	

**Table 5:** Research methods used in distance education research published in scientific journals in Saudi universities

%	Frequencies	Approach	No
86.7%	13	descriptive analytical	1
20.0%	3	documentary descriptive	2
13.3%	2	qualitative	3
6.7%	1	semi-experimental	4
6.7%	1	deductive	5
6.7%	1	inductive	6
	<b>21</b>	<b>Total</b>	

qualitative approach was used in only two researches at a rate of (13.3%), while some curricula were used only once, such as the quasi-experimental approach, the deductive approach, and the inductive approach. These results are in agreement with the results of the Al-Astal study (2015), which found that (97%) of the research analyzed in the study was quantitative, and the Bani Doumi study (2018), whose results showed that descriptive research is the most used in the analyzed messages, followed by empirical research. Then study the case. This contradicts the global trends in distance education research, which witnessed a diversity of research methods used in it and the multiplicity of variables that it addressed (Bani Doumi, 2018). The result of the current study differed with the result of the study (Valverde-Berrocoso et al., 2020), which found that the case study method was the most common method. It also differed with the results of the study (Mishra et al., 2021), which found that most studies used quantitative methods with a percentage of 43.64%, followed by qualitative methods with a percentage of 13.33%, followed by mixed methods with a percentage of 9.09%.

##### 5. What is the percentage of male and female contributions to distance education research published in scientific journals in Saudi universities?

Table 6 displays the Percentage of male and female contributions to distance education research published in scientific journals in Saudi universities.

The results of the table show that the majority of distance education research published in scientific journals in Saudi universities was dominated by the male authorship style, in (10) researches at a rate of (66.7%). Female researchers contributed in authoring (4) research papers at a rate of (33.3%), while male and female authors participated in only one research. These

results are in agreement with the results of the Bani Doumi study (2018), which showed the superiority of males over females in terms of their interest in studies in the science of educational technology, and the Al-Anazi study (2021), which found that most scientific production is directed towards the descriptive method, then the experimental method.

##### 6. What are the instruments used in distance education research published in scientific journals in Saudi universities (individual, group)?

The table below shows the research instruments used in distance education research published in scientific journals in Saudi universities (Table 7).

The results of the table show that the questionnaire was the main research tool in distance education research published in scientific journals in Saudi universities, as it was applied in (11) research with a percentage of (73.3%) of the research. Document analysis form and interview form were applied in (3) research (20.0%), while other tools were employed only once, such as the test, the content analysis form, and the note card. This result can be explained by the fact that questionnaires are among the easiest research tools in terms of preparation, application, and analysis. This result differed with the result of Al-Anazi study (2021), which showed that the most used tools in the analyzed research were achievement tests, then questionnaires.

##### 7. What are the areas related to distance education in distance education research published in scientific journals in Saudi universities?

The table 8 displays the fields related to distance education in distance education research published in scientific journals in Saudi universities

**Table 6:** Percentage of male and female contributions to distance education research published in scientific journals in Saudi universities

%	Frequencies	Author's gender	No
66.7%	10	Male	1
26.7%	4	female	2
6.7%	1	male and female	3
<b>100.0%</b>	<b>15</b>	<b>Total</b>	

**Table 7:** Research instruments used in distance education research published in scientific journals in Saudi universities

%	Frequencies	Tools	No
73.3%	11	A questionnaire	1
20.0%	3	Document Analysis Form	2
20.0%	3	interview form	3
6.7%	1	Test	4
6.7%	1	Content Analysis Form	5
6.7%	1	Observation card	6
	<b>20</b>	<b>Total</b>	

The results of the table show that distance education research published in scientific journals in Saudi universities covered four basic aspects related to distance education, most of which were an attempt to determine the effectiveness of distance education in various aspects in (6) research with a percentage of (40.0%) of the research, as well. The reality of distance education in (5) researches with a percentage of (33.3%), and two of these researches focused on identifying the challenges facing distance education, as well as the same number tried to identify the nature of trends towards distance education.

8. In what years were distance education research published in scientific journals in Saudi universities?

Table 9 shows the years in which distance education research published in scientific journals in Saudi universities was published.

The results of the table show that the distance education research that was published in scientific journals in Saudi universities over ten years amounted to (15) research, with one research approximately every eight months. The year (2020) was the year in which (4) researches were published the most, with a rate of (26.7%), and the years (2018) and (2019) followed with (3) researches per year, while the period from (2014) did not witness -2016) Publish any research related to distance education. The researcher believes that this result is logical and compatible with the activity witnessed by the field of scientific research during the Corona pandemic.

**Table 8:** Fields related to distance education in distance education research published in scientific journals in Saudi universities

%	Frequencies	The aspect covered by the research	No
13.3%	2	Attitudes towards distance education	1
13.3%	2	Challenges facing distance education	2
40.0%	6	The effectiveness of distance education	3
33.3%	5	The reality of distance education	4
<b>100.0%</b>	<b>15</b>	<b>Total</b>	

**Table 9:** The years in which distance education research published in scientific journals in Saudi universities was published

%	Frequencies	Year	No
6.7%	1	2010	1
6.7%	1	2011	2
6.7%	1	2013	3
13.3%	2	2017	4
20.0%	3	2018	5
20.0%	3	2019	6
26.7%	4	2020	7
<b>100.0%</b>	<b>15</b>	<b>Total</b>	

9. What is the gender of distance education research samples published in scientific journals in Saudi universities?

The study also wanted to know the gender of distance education research samples published in scientific journals in Saudi universities. The results are shown below.

The results of the table show that the samples in which distance education research was applied were males and females in (7) researches with a percentage of (46.7%), while the samples of (3) researches consisted of males, and the same number of research also consisted of female samples.

10. What is the nature of the categories of distance education research samples published in scientific journals in Saudi universities?

The study also sought to examine the nature of the categories of distance education research samples published in scientific journals in Saudi universities. The results are displayed in the table 10.

The results of the table show that there is diversity in the quality of the samples for which distance education research was applied. Three samples of them consisted of faculty members in universities, and the same number of samples consisted of university students. As for distance education specialists, students with disabilities, and school students, the share of each category was two research, while one research sample came from more than one category (faculty members in universities, parents, students), and two research papers were applied to any sample. This result was in contradiction

**Table 10:** Gender of distance education research samples published in scientific journals in Saudi universities

%	Frequencies	Gender of sample	No
20.0%	3	female	1
20.0%	3	male	2
46.7%	7	males and females	3
13.3%	2	There is no	
<b>100.0%</b>	<b>15</b>	<b>Total</b>	

**Table 11:** The nature of the categories of distance education research samples published in scientific journals in Saudi universities

%	Frequencies	Sample	No
20.0%	3	Faculty members in universities	1
20.0%	3	University students	2
13.3%	2	Distance education specialists	3
13.3%	2	Students with disabilities	4
13.3%	2	School students	5
6.7%	1	More than one category (university faculty members, parents, students)	6
13.3%	2	There is no	7
<b>100.0%</b>	<b>15</b>	<b>Total</b>	

to the result of Al-Anazi study (2021), which showed that middle school students were the most targeted stages of public education.

11. What are the research gaps in distance education research published in scientific journals in Saudi universities?

Through the researcher's analysis of distance education research, it was found that there are several research gaps in distance education research published in scientific journals in Saudi universities, the most important of which was the following gaps:

- There is a clear lack of interest in publishing distance education research in scientific journals in Saudi universities. During ten years, only 15 research papers have been published, i.e., one research is approximately every eight months, despite the increased interest in publishing research related to distance education. Recently, which came as a result of the increased interest of most countries in the world in employing distance education as a result of the spread of the Covid 19 pandemic, however, the amount of distance education research is still not up to the hoped-for level as it reached at its best to (4) researches per year, which is The year of the outbreak of the COVID-19 virus (2020). Although a significant increase has been observed in the amount of research conducted in the field of education technology and distance education at the local and global levels (Bani Doumi, 2018). This is supported by the study (Das, 2021), which retrieved 27,979 searches from the Scopus database from 1970 to 2020 using the Similarity Visualization program (Vosviewer), as well as the study (Djeki et al., 2022), which showed that distance education research reached ( 12272) searches published between 2015 and 2020 from the WoS database.
- The lack of interest in Saudi universities in publishing distance education research. During the period from (2010-2020), only 10 universities contributed to the publication of 15 research related to distance education, i.e., an average of one and a half research for each university during a period of 10 years. This confirms the existence of a clear shortcoming in the interest of Saudi universities in such research.
- Lack of interest in the pattern of collective authorship in authoring distance education research published in scientific journals in Saudi universities, as it was overshadowed by the individual authorship pattern, which was twice the pattern of collective authorship, and even the research whose writing pattern was a collective pattern, the number of researchers in all of them was two researchers, so Three or more researchers contribute to publishing research papers in scientific journals in Saudi universities related to distance education.

- The focus of distance education research published in scientific journals in Saudi universities is mainly on the descriptive-analytical approach, neglecting the rest of the research methods; only the descriptive-analytical approach was used in the majority of these researches, while there was a clear shortcoming in the use of other curricula, especially the quasi-experimental one. And the deductive method and the inductive method, which each used in one research only. This result is supported by the study of Al-Qahtani and Al-Shehri (2019), which found agreement among researchers on the most prominent scientific application gaps in curricula and teaching methods, the most important of which are the widespread use of the descriptive approach and the lack of experimental research, and the study of Maulana et al., 2021, which Its results showed that there are research gaps that future researchers must fill, such as diversification in the research methods used.
- The dominance of the male authorship pattern over distance education research published in scientific journals in Saudi universities was more possible than the weakness of the female authorship pattern, which indicates the lack of interest of female researchers in Saudi Arabia in publishing research related to distance education.
- The distance education research published in scientific journals in Saudi universities focused mainly on the questionnaire as a tool for collecting information, as the majority of the research was applied, as there was no great interest in employing the rest of the data collection tools, especially the content analysis form and the observation card.
- The research did not generally address the most vital and directly relevant topics for distance education, such as: quality control, educational design for distance education, theories related to distance education, teaching and learning patterns in distance education environments, management and planning of distance education. Distance education during crises, the effectiveness of training and distance education, trends and research maps for distance education, trends of beneficiaries of distance education in light of the diversity of methods of providing distance education, and correlation between e-learning and distance education.

## CONCLUSIONS

In light of the results of the study and discussion of the results, the following was found: that (10) Saudi universities had contributions to distance education research, (11) scientific journals contributed to the dissemination of distance education research, and the individual authorship style is

the most, where the percentage of (66.7%). The descriptive analytical method was the most employed in (13) research with a percentage of (86.7%), and most of the researchers were male and came with a percentage of (66.7%), and the questionnaire was the main research instrument with a percentage of (73.3%) of the research. Also, the published research covered four basic aspects related to distance education, and the most important of these aspects is the effectiveness of distance learning (40%). The results also showed that the year (2020) was the most published year for distance education research with a percentage of (26.7%), and the results showed that the gender of research samples was mixed with a percentage of (46.7%), while the categories of research samples varied between faculty members and university students with a percentage of (20%) each. Through the analysis of distance education research, it was found that there are several research gaps, the most important of which is a clear lack of interest in publishing distance education research in scientific journals in Saudi universities and research focus on the descriptive analytical approach. Based on the results, the study recommended increasing the interest of researchers in various Saudi educational institutions to publish distance education research in scientific journals in Saudi universities, diversifying the curricula used, and not being limited to a specific research methodology.

## RECOMMENDATIONS

Based on the results of the study and to overcome the research gaps in distance education research published in scientific journals in Saudi universities, the current research offers the following recommendations:

1. Increasing the interest of researchers in various Saudi educational institutions to publish distance education research in scientific journals in Saudi universities.
2. Taking measures that motivate researchers to publish distance education research in scientific journals in Saudi universities, such as allocating an annual award for the best scientific research in the field of distance education and holding an annual conference that focuses primarily on scientific research in distance education.
3. Increasing the interest of Saudi universities in publishing distance education research in their journals by allocating special issues every period to publish research related to distance education.
4. Increasing interest in the pattern of collective authorship in authoring distance education research published in scientific journals in Saudi universities.
5. Diversifying the research methods used in distance education research published in scientific journals in Saudi universities and not be limited to the descriptive analytical approach, especially the quasi-experimental

approach, because this approach provides practical results that contribute to the development of distance education.

6. Diversification in the research tools that were applied in distance education research, and not focusing on the questionnaire only, especially the content analysis form and the interview form, because diversification in data collection tools contributes to reaching more diverse results and recommendations that contribute to the development of distance education research.

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