

## Identifying the Components of Distance Education in Rural Areas to Provide a Distance Education Model for Secondary Schools in Villages of Iran

Amirhossein Oraki<sup>1</sup>, Mahboubeh Sadat Fadavi<sup>2\*</sup>, Narges Saeidian Khorasgani<sup>2</sup>

1. PhD Student in Educational Management, Islamic Azad University, Khorasgan Branch, Isfahan, Iran.
2. Assistant Professor, Faculty of Psychology and Educational Sciences, Islamic Azad University, Khorasgan Branch, Isfahan, Iran.

### Article type:

Research

### Article history:

Received date: 2020/04/13

Review date: 2020/06/20

Accepted date: 2020/06/27

### Keywords:

distance education, rural areas, secondary schools

### Abstract

**Purpose:** The aim of this study was to identify the components of distance education in rural areas in order to provide a model in secondary schools in the country.

**Methodology:** The combined research method was exploratory. In the qualitative part of the study, content analysis with inductive approach was used. Research environment in this section, 84 documents including 67 articles and books, 17 texts of interviews in the field of distance education that were selected as a sample, the components obtained in this research include 7 main components including management and leadership infrastructure, Economic infrastructure, technical infrastructure, educational infrastructure, socio-cultural and value infrastructure, organizational infrastructure and human infrastructure and 25 sub-components. The relative content validity coefficient was used to assess the validity and the Holsti coefficient was used to determine the reliability of the themes. The extracted reliability coefficient was 0.98 which indicated the high reliability of the themes. In the quantitative part, 290 members of the sample were selected by Cochran method and stratified random sampling method. The research tool was a 70-item researcher-made questionnaire. To evaluate the validity of the questionnaire, face, content and structural validity were used, and to assess its reliability, Cronbach's alpha with a value of 0.90 was used. Descriptive statistical methods were used in the analysis of quantitative data including frequency distribution tables and graphs and in the inferential section of confirmatory factor analysis. According to the relative Chi-square fit indices, adaptive fit, adaptive fitting and barbell, the model had a good fit.

**Findings:** The results showed that among the identified components, educational infrastructure was ranked highest and human infrastructure was ranked lowest, respectively.

**Discussion:** E-learning is useful for rural areas in terms of knowledge, better job opportunities, advancement and learning of developing technologies in marketing, and focusing on rural areas helps people's social development and mental ability.

**Please cite this article as:** Oraki A, Fadavi M, Saeidian Khorasgani N. (2020). Identifying the Components of Distance Education in Rural Areas to Provide a Distance Education Model for Secondary Schools in Villages of Iran. *Iranian Journal of Educational Sociology*. 3(3): 145-157.

\* Corresponding author: mahboubefadavi@gmail.com

## 1. Introduction

Today, with the introduction of new educational technologies and especially Internet access among the inclusive community in schools and their influence from non-native global cultures, a situation has arisen in which education has to choose new functions to suit the needs of the time. Selecting and achieving new functions requires a new look at the education system. One of the most important changes in the field of education in the information age is the formation of a learner-centered educational system alongside the teacher-centered educational system and as a complement to it. The emergence of e-learning as a subset of distance education has provided the ground for the widespread use of learning-based education and other changes in educational practices, so one of the applications that the opinion of education experts in the document The fundamental change under the heading of educational justice has attracted distance education. Reducing training costs, producing timely content, integration of topics, flexible access and ease and convenience of working with it can be considered as the advantages of this method. Educational values and criteria can also be improved by customizing educational content based on the needs of learners. Many educational institutions are offering creative educational programs using online and offline methods.

Some believe that distance education as a method of education, first as a necessity to remove climatic and geographical barriers and educational spaces, sexual restrictions and age of learners began to work and then as an educational system, philosophy And found special purposes in learning theories. The ultimate goal of distance education is to transform educational inequalities and provide opportunities that are lacking in educational institutions. Distance education is for students who want to make up for academic failure or who are unable to attend a traditional educational institution due to a long illness or disability or distance, and for those people (especially adults) who They want to complete their education while working, it seems to be a good way. Research shows that countries with dynamic education have benefited from distance education to strengthen school education (Gharabaghi, et al, 2010). In this regard, considering that the future of any country depends on the development of human resources, and education, by flourishing talents, has increased the power and efficiency of human resources, which makes the development of society possible. Achieving such a situation requires that all the necessities of education be covered by education. Because natural power is randomly distributed, the only way to discover talents is to create educational opportunities for all members of society, so that they can use the opportunity to develop their abilities. Meanwhile, children living in rural areas need more attention due to special geographical conditions and problems and extensive efforts should be made to cover their education and training to provide the necessary grounds for creating educational opportunities for them (Gharabaghi, et al, 2010).

Distance learning is any learning in which the teacher and the student are geographically distant from each other. Distance learning is possible using e-mail, video, cable TV, media, or any Internet-related technology such as message boards, chat rooms, and computer or video conferencing. In fact, distance learning is a guided system or process that connects learners to remote resources. It can also be used as a tool for complementary learning (Babaei, 2010).

Distance learning is a type of educational process in which all or most of the teaching is done by the learner to the learner regardless of time and place, in the sense that all or part of the communication between teachers and learners through a medium Artificially, whether electronic or printed. By definition, in distance education, the normal or main tool of communication is technology (Khoshnoodifar, et al, 2011).

Daniel et al (2010) state that e-learning is the use of technology to empower people to learn at any time and place. E-learning can include training, instant delivery and guidance from professionals. Eugene et al. (2010) concluded that the Internet is a great help to rural students for information resources. Rural students in this area have good experiences of using the Internet, so distance learning can be used according to their ability to use the Internet in this area.

The results of the findings of Yan Li et al (2011) showed that the quality of e-learning services, the quality of curriculum, acceptance of the usefulness of the system, ease of use have a direct impact on the behavioral tendency of learners to reuse. System usage and system accountability have an indirect impact. Dray et al. (2011) in their research to build a tool to measure the student's readiness for online learning have stated that this tool is a questionnaire and consists of two subscales, learning characteristics and occupation Information and Communication Technology. The subscriber traits of the learner include such things as the learner's responsibility for problem solving, time management ability, writing ability, and opinion expression. The second subscale includes basic technology skills, access to technology, rate of technology use, and attitude toward technology (such as reliability and ease of working with computers).

Anal et al. (2012) in a study entitled e-learning and its impact on rural areas concluded that e-learning for rural areas in terms of knowledge, better job opportunities, advancement and learning of developing technologies Useful in marketing. In particular, focusing on rural areas contributes to people's social development and mental ability. Odunaik, et al (2013) include effective factors in e-learning, including proper planning for the preparation of e-learning programs, support programs, best practices, training, collaboration and coordination, maximizing the use of learning management system, Curriculum planning splits the development of online content. He introduces students, teachers, technology and institutes as the main dimensions of e-learning (Ozyurt & Ozyurt, 2015). By reviewing articles from 2005 to 2014 on creating e-learning environments based on different learning styles they found that adaptive e-learning environments based on creative learning style increased learner learning and satisfaction.

Garcia Cabot & De Marcos (2015) in a study acknowledged that adaptation to the environment and the type of behavior of people in different environments overshadows their learning. Adaptation to the environment also includes those responses that make the person effectively and harmoniously adapt to the situation in which he is. Therefore, achieving a desirable level of adaptation can facilitate the achievement of one's desires, ideals and goals. One of the goals of students is academic success. Des'man (2015) states that gender and previous information technology training in the e-learning system affect students' academic performance and achievement, and that e-learning and technology play an important role in the world's educational environment. Although young people think they are making good use of technology, what is expected is an increase in performance and academic achievement in the education environment.

Lee (Lee, 2015) states in a study that teacher teaching with technology has an important role in self-direction in student learning and the role of teachers in terms of behavioral and emotional support and technology awareness in increasing self-direction in learning should not be overlooked (Najmul, 2016). In a study in the e-learning system on 179 virtual students showed that e-learning in addition to increasing learning and academic achievement also helps the development of society. Singh (2016) conducted a study entitled "Learning through mass online courses. The results showed that Mook has a great potential for lifelong learning and teaching if it is structured in a way that self-organized learning according to Different learning needs and styles create a diverse group of learners. Teachers, learners and educational content are the three main pillars of distance learning, which is a dynamic and active learning, and these three main pillars influence each other. Ramdas, et al (2018) showed that schools and teachers need to take important steps to advance the goals of distance education and address their weaknesses in this area. They can be used to eradicate illiteracy in the villages, so the government should introduce many educational programs to the villagers to encourage them to participate in these programs.

The findings of Mutanana (2018) entitled Open and distance learning in rural communities of Zimbabwe, showed that the main problems for establishing distance education in rural areas are: poor electricity for equipment operation, poor access to Physical resources, expenses and other hidden costs of education and cultural, social and employment responsibilities, also in a study to determine digital learning strategies for rural America conducted by Gemin. et al (2018), it was stated that rural schools undoubtedly face different challenges that are different from the challenges of urban, suburban counterparts. And it is

their city. These limitations include: reduced enrollment, highly disadvantaged social and economic population, high transportation costs, lack of access to computers and internet at home, low teacher salaries, fewer teachers, especially in high-level courses, fewer courses Available to students. Distance learning can address some of these rural school challenges. (Masto, 2018) in his research on rural communities to remove barriers to high quality education and provide important resources for student development, concludes that, unfortunately, many rural areas still do not have access to broadband services. . This unequal access to quality Internet puts our rural students at a disadvantage, especially those who rely on distance learning opportunities to accomplish their educational goals.

Zawacki (2019) in his study entitled: The position of distance education in a journal network showed: distance education becomes more productive with the expansion of the technology community and over time, and the most prolific journals and authors of this network from this way they identify. In his paper, Veletsianos, et al (2019) report on the main themes identified in the literature on flexible learning that have been published in distance education over the past 40 years: Features of flexibility as a presentation Learning "anytime, anywhere", service-oriented aspects of flexibility, limitations of flexibility especially in terms of technology, time and place constraints, as well as cultural differences, flexibility as a quality required by educators and training designers , These themes imply a complex understanding of flexibility, and can support future teaching and scientific endeavors (Farajollahi, 2019) A research entitled "Presenting a model of optimizing timing and reducing costs in the virtual education system" (distance) with the aim of providing a model of optimizing timing and reducing costs in the virtual education system One of the successful methods and methods of scheduling and optimizing costs in the distance education system is value management. There is a correlation between the variables related to the effect of cost centers in managing the value gained in the success of first-class distance education courses. The assumption that there is a relationship between the impacts of functional problems is accepted in the management of the value gained in the success of distance learning courses.

Since one of the ways to expand education is through the use of extensive communication facilities through distance education and in Iran, different conditions of geographical dispersion and distribution of regional facilities limit the expansion of education, especially in rural areas. According to the researcher's job experience in rural areas, due to many reasons, including the lack of quorum for high school classes in all villages, distance, the problem of vehicles to attend high school classes in other areas, limited registration in Boarding schools, physical disabilities of some learners, early marriages of rural female students, local problems among neighboring villagers, barring children from continuing their education in high school due to the busy schedule of rural families, and the interest of literacy graduates in continuing their education. In high school, distance education can greatly alleviate the problem of education for rural high school students. While a number of distance learning studies have examined the success factors and benefits of this method, there is still a lack of applied research, emphasizing the relationship between the quality of distance education services and learner acceptance and the characteristics of the learner. The donor is visible. Therefore, what can be clearly seen is that in the researches and studies conducted in Iran, both in terms of focusing on the establishment of distance education for urban areas and in terms of the fact that these researches have not considered all aspects of the establishment of this education. They have a disadvantage. To achieve the desired goals and eliminate these shortcomings, the researcher seeks and identifies the components of distance education in rural areas and provides a distance education model for rural areas. Therefore, in this research, while stating the goals and explaining the importance of distance education and the role of this type of education and examining the necessary facilities and conditions, it will be stated what are the components of creating distance education to provide a model in rural areas?

## 2. Methodology

In this research, the mixed research method of exploratory design was used in a sequential manner (qualitative to quantitative). In the qualitative part, the method of qualitative content analysis with inductive approach was used. In the exploratory qualitative section, first the researcher by studying books and articles and conducting interviews related to the distance education system has extracted the components of creating a distance education system in rural areas and then has categorized these components by coding. In the qualitative section, with the help of 12 experts, the components of creating a distance education system in rural areas were confirmed by the expert group through confirmatory factor analysis, so that some items were removed. The researcher then constructed a closed questionnaire. In the second part of the research, the quantitative part of the researcher, by selecting the statistical population and the selected sample, distributed the questionnaires in person to turn the extracted data into information. Since after presenting the proposed model, quantitative relationships between the components of the model are determined, both qualitative and quantitative methods and finally the combined research method were used. It can be said that this research is applied in terms of purpose, in terms of qualitative-quantitative nature, in the qualitative part of the content analysis type with an inductive approach of the category system and in the quantitative part of the descriptive-survey type.

The research area of this research in the qualitative part includes the study of texts related to distance education, selection of 44 Persian texts (books and articles from 1390 to 1396), 23 Latin texts (from 2010 to 2017) and the content taken from the interview (17 Academic and organizational experts working in universities and education departments in 2017 and 2018) were finally examined in the qualitative section of 84. In the present study, purposive sampling in two stages has been used in the qualitative part. In the first stage, books and articles related to the subject of distance education (selecting 67 articles from 102 sources) and conducting interviews (17 people) were used to saturation. At this stage, the components of creating an educational system in rural areas were determined. In the second phase, the qualitative part of the researcher has selected thematic experts to conduct the interview purposefully and using the snowball method. Therefore, through targeted sampling and snowball method, 12 subject matter experts were selected and the indicators and components extracted from the content of texts and interviews were reviewed and approved by them.

In a small part, the statistical population included the employees of organizations, administrators (managers-teachers) of distance education centers throughout Iran in the amount of 1586 people. In this section, stratified random sampling of distance education centers in the country was used. Considering that this research was conducted in distance education centers in different cities of Iran and since the degree of homogeneity was higher in each of the regions, in order to determine the components of creating an educational system in rural areas by stratified sampling method appropriate to Volume was used.

To evaluate the validity in the qualitative part, the original and direct quotation method has been used. In the quantitative part, in order to determine the validity of the questionnaire, the form and content validity method as well as the confirmatory factor analysis method have been used, which all indicate the appropriate validity of the measurement tools of the present research in the quantitative part. To evaluate the reliability of the qualitative part of this study, the reliability criterion was used. In this criterion, several strategies to make the results believable, including: review and long-term engagement with data, three-way (data collection from sources and methods Various (texts and interviews), conflicting data analysis, review of raw data interpretations, conversation with colleagues, not rushing to present the results, were used to evaluate the reliability of the questionnaires in a small part of Cronbach's alpha test and SPSS software The results showed that all seven components have an alpha of more than 0.7 and it can be concluded that this questionnaire and its dimensions have good reliability. After reviewing and analyzing the documents as well as interviewing experts, the extracted codes were categorized and the

components related to each of them were identified. After the necessary summaries and adjustments, seven components and 70 sub-components were identified and approved. The implementation process of these steps is shown in Figure 1.

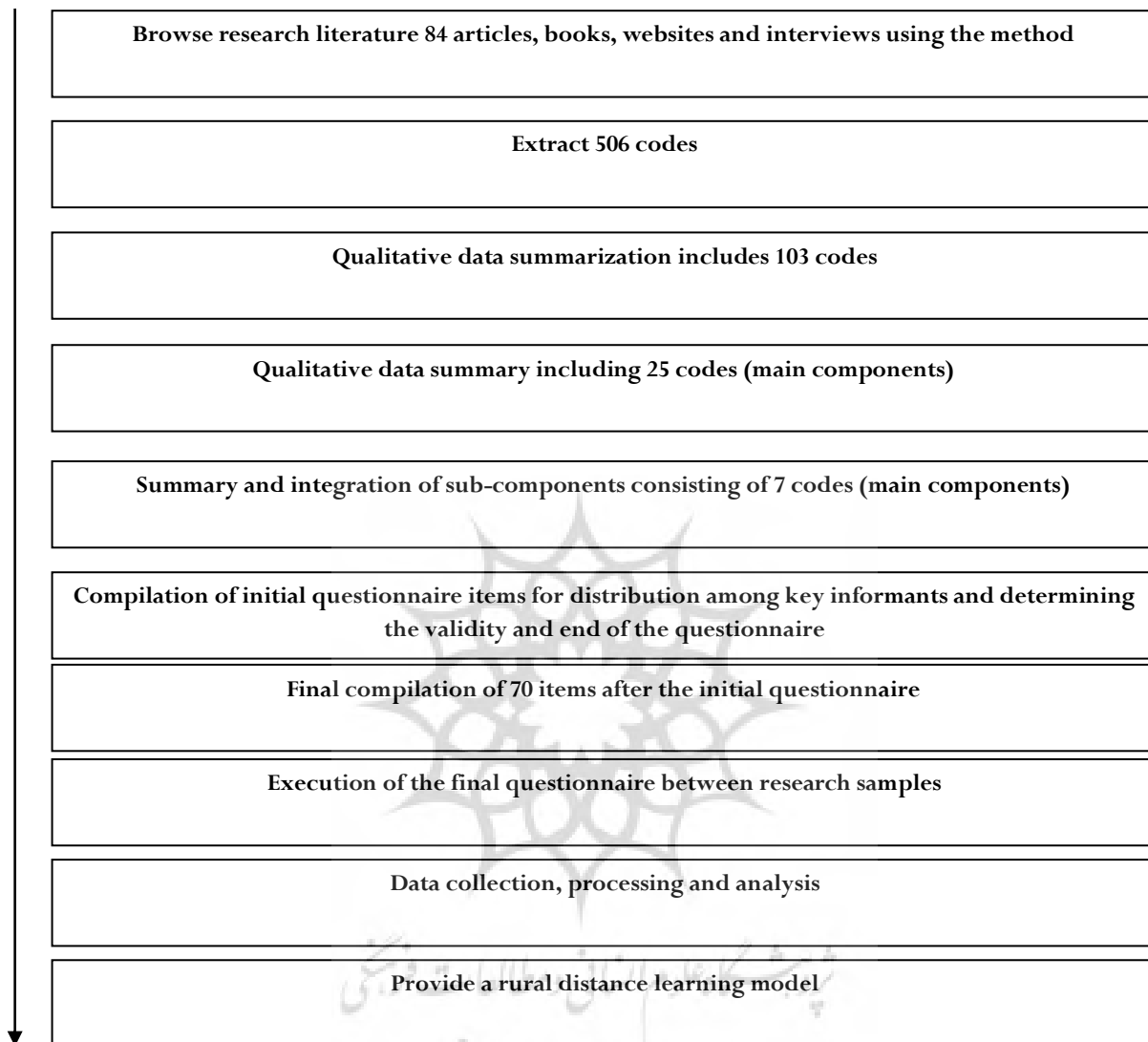
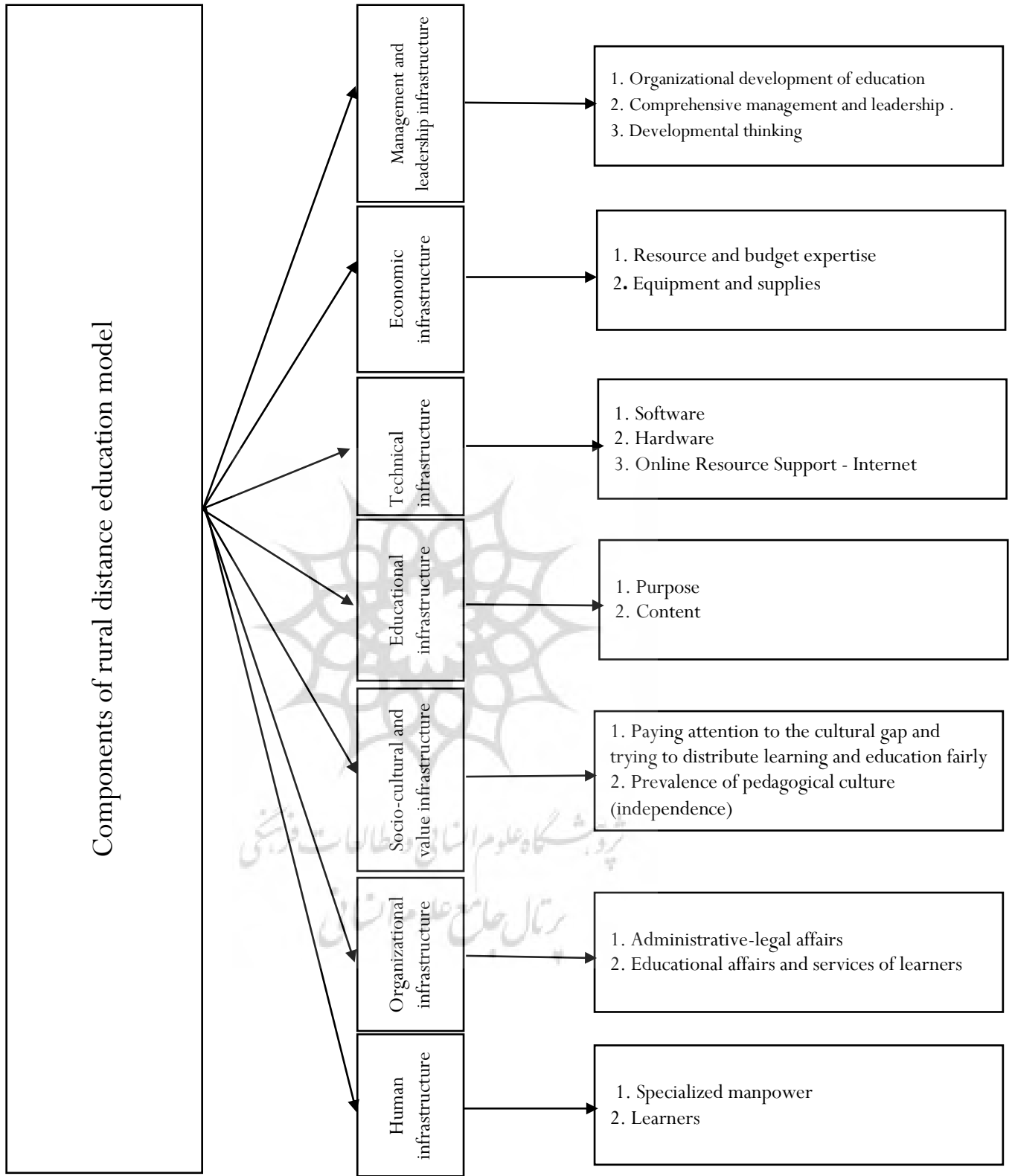


Figure 1. Execution process of research steps in the qualitative section

### 3. Findings

At this stage, the researcher has obtained the identified and extracted components in the main and sub-categories. The rural distance education model that the researcher has achieved in the present study consists of 7 main components. The results of confirmatory factor analysis showed that this model has 25 factors on these 7 main components namely management and leadership infrastructure, economic infrastructure, technical infrastructure, educational infrastructure, socio-cultural and value infrastructure, organizational infrastructure and human infrastructure (Figure 2). The estimated research model is presented below (Figure 3).



**Figure2.** Components of the rural distance education model

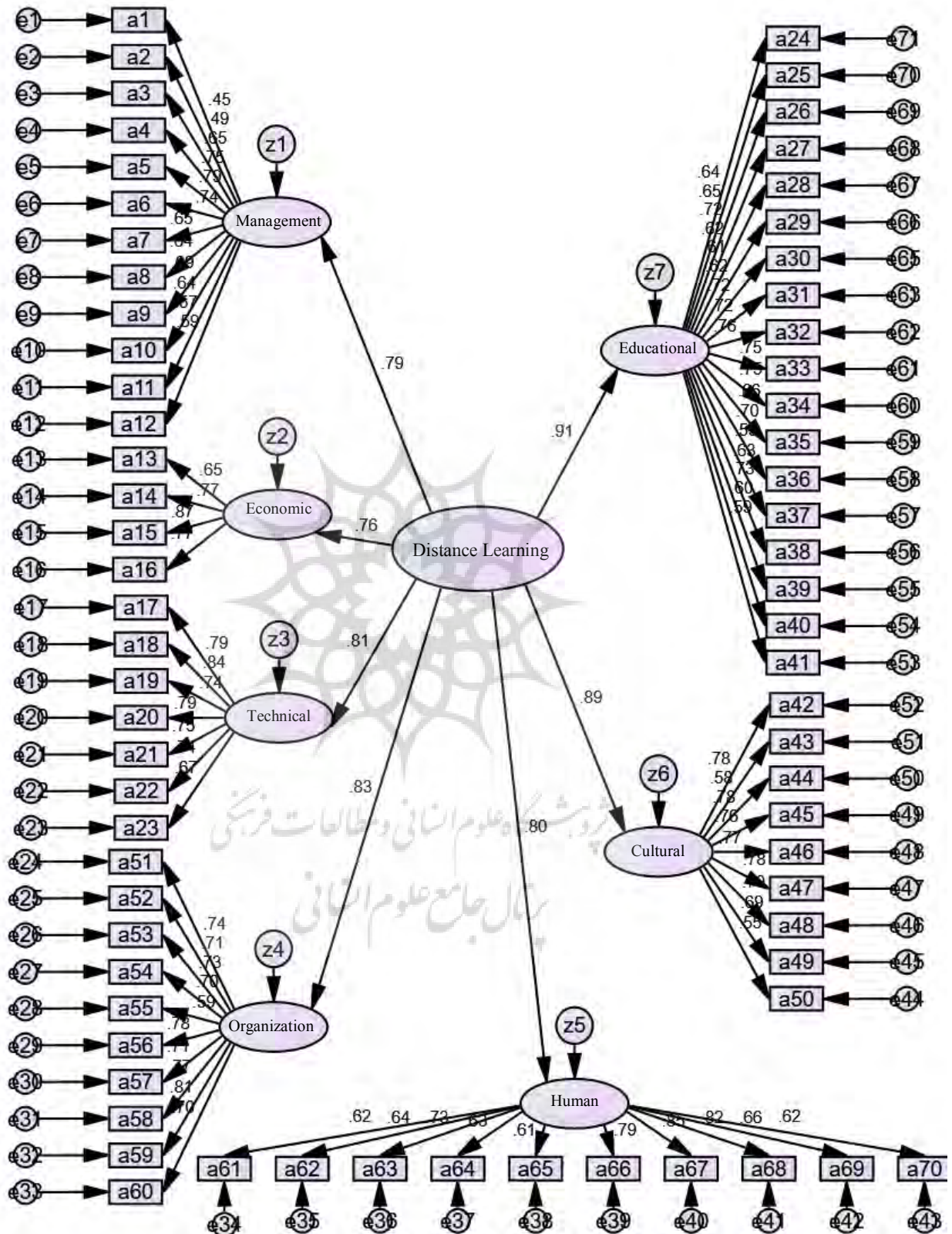


Figure3. The second-order factor model of creating a distance education system in rural areas of Iran



Findings showed that management and leadership infrastructure, economic infrastructure, technical infrastructure, educational infrastructure, socio-cultural and value infrastructure, organizational infrastructure and human infrastructure are vital components for distance education.

**Table1.** Explaining the values of factor loads in the themes of creating a distance education system in rural areas of Iran

	Referrals	Factor load	Z	The significance level
Management and leadership infrastructure	a1	0/446	6/624	***
	a2	0/493	7/230	***
	a3	0/647	8/895	***
	a4	0/754	9/873	***
	a5	0/788	10/149	***
	a6	0/744	9/782	***
	a7	0/652	8/941	***
	a8	0/642	8/848	***
	a9	0/691	9/319	***
	a10	0/637	8/801	***
	a11	0/568	8/079	***
	a12	0/585	-	-
Economic infrastructure	a13	0/585	11/024	***
	a14	0/773	13/273	***
	a15	0/870	14/912	***
	a16	0/768	-	-
Technical infrastructure	a17	0/788	12/001	***
	a18	0/842	12/704	***
	a19	0/744	11/424	***
	a20	0/788	12/004	***
	a21	0/749	11/482	***
	a22	0/743	11/412	***
	a23	0/673	-	-
Educational infrastructure	a24	0/641	-	-
	a25	0/646	9/826	***
	a26	0/720	10/754	***
	a27	0/623	9/530	***
	a28	0/609	9/351	***
	a29	0/622	9/523	***
	a30	0/721	10/765	***
	a31	0/717	10/713	***
	a32	0/761	11/236	***
	a33	0/747	11/075	***
	a34	0/747	11/079	***
	a35	0/661	10/023	***
	a36	0/701	10/514	***
	a37	0/594	9/153	***
	a38	0/625	9/562	***
a39	0/731	10/881	***	
a40	0/602	9/252	***	
a41	0/594	9/142	***	
Cultural, social and value infrastructure	a42	0/779	-	-
	a43	0/580	10/061	***
	a44	0/785	14/361	***
	a45	0/757	13/738	***
	a46	0/767	13/960	***
	a47	0/775	14/151	***
	a48	0/700	12/494	***

Organizational infrastructure	a49	0/685	12/195	***
	a50	0/546	9/418	***
	a51	0/741	11/984	***
	a52	0/714	11/557	***
	a53	0/733	11/853	***
	a54	0/700	11/334	***
	a55	0/587	9/542	***
	a56	0/775	12/520	***
	a57	0/706	11/462	***
	a58	0/767	12/391	***
	a59	0/811	13/077	***
	a60	0/702	-	-
Human infrastructure	a61	0/622	9/102	***
	a62	0/643	9/344	***
	a63	0/733	10/324	***
	a64	0/627	9/150	***
	a65	0/606	8/904	***
	a66	0/795	10/941	***
	a67	0/845	11/408	***
	a68	0/818	11/156	***
	a69	0/657	9/494	***
	a70	0/617	-	-

The values estimated in the table above indicate that the factor loads related to all indicators related to the theme of creating a distance education system in rural areas of Iran are in good condition, in other words, the correlation of this theme with the indicators related to these topics in The mean is estimated to be above average and as a result the measurement tool has factor validity. :

**Table2.** Summary of the values of factor loads of the themes of creating a distance education system in rural areas of Iran

Components	Factor load	Z	The significance level
Management and leadership infrastructure	0/790	-	-
Economic infrastructure	0/762	7/947	***
Technical infrastructure	0/813	7/772	***
Educational infrastructure	0/912	7/915	***
Cultural, social and value infrastructure	0/893	8/640	***
Organizational infrastructure	0/832	8/020	***
Human infrastructure	0/802	7/402	***

The values estimated in Table 3 indicate that the factor loads related to all indicators related to the theme of creating a distance education system in rural areas of Iran are in good condition, in other words, the correlation of this theme with the indicators related to these topics in The mean is estimated to be above average and as a result the measurement tool has factor validity.

**Table3.** Evaluation indicators of the factor model of creating a distance education system in rural areas of Iran

Indicator	Degrees of freedom	Relative chi-square	Adaptive Fit Index	Affordable Adaptive Fit Index	The second root of the mean squares of the estimation error
amount	2338	3/042	0/90	0/83	0/088

The evaluation indicators of the totality of the factor model in general indicate that the fit of the data to the model is established. All indicators for evaluating the totality of the factor model by considering the desired values to these indicators indicate the desirability of the factor model for creating a distance education system in rural areas of Iran.

#### 4. Discussion

The general purpose of this study was to present a model for creating a distance education system in rural areas of Iran. For this purpose, first by studying the existing literature in this field and following a qualitative study and content analysis of articles, websites, books and interviews (84 cases), the dimensions and components of the concept of distance education are extracted. After summarizing the main and sub-components (7 main components and 25 sub-components) related to rural distance education, a 70-item questionnaire was developed for quantitative study and the variables extracted from it were measured and validated.

Indicators indicate the desirability of the factor model of the management and leadership infrastructure component. The factors of this component of distance education are: organizational development of education, comprehensive management and leadership, development thinking, management team. This study is consistent with the findings of Azizi et al., 2013 and Odunaike (2013). Indicators evaluating the totality of the factor model indicate the desirability of the factor model of the economic infrastructure component. The factors of this component of distance education are: allocation of resources and budget, equipment and supplies, economic infrastructure refers to facilitating the flow of capital in the development of distance education (Farajollahi, 2015). This study is consistent with the findings of Azizi, et al (2013) who paid attention to financial factors and costs in the implementation of educational activities. Indicators for evaluating the totality of the factor model indicate the desirability of the factor model of the technical infrastructure component. The factors of this component of distance education are: software-hardware, online resource support-Internet, designing the environment of providing electronic resources. Technical infrastructure includes telecommunication infrastructure systems, networks and Internet services, computer and educational software, computers and personal peripherals. This study is consistent with the findings of Means (Means, 2009). Lee (2015) also states in research findings consistent with this study that teacher teaching with technology plays an important role in self-direction in student learning. Indicators of evaluation of the totality of the factor model indicate the desirability of the factor model of the educational infrastructure component. The factors of this component of distance education are: purpose, content, design, organization, implementation, evaluation, learning strategies, educational materials. Educational infrastructure to change the pattern of teaching and learning, change from controlled classroom teaching to e-learning system free of time and space constraints, new teaching styles (simultaneous and asynchronous), change from focus on learning instead of focus on teaching , Refers to new methods of teaching and evaluation (Gharabaghi et al., 2011). Indicators of evaluation of the totality of the factor model indicate the desirability of the factor model of the cultural, social and value infrastructure component. The factors of this component of distance education are: paying attention to the cultural gap and trying to distribute learning and education fairly, promoting a culture of autonomy (independence), changing the social role of education, ethical considerations

Socio-cultural and value infrastructures to all material and spiritual constructs of man in the development of e-learning, abstracts and extracts of his social life, including customs, beliefs, convictions, laws and regulations, values and norms and literary creations , Art, etc. (Azizi, et al., 2013). Indicators of evaluation of the totality of the factor model indicate the desirability of the factor model of the organizational infrastructure component. The factors of this component of distance education are: administrative-legal affairs, educational affairs and learners' services. Organizational infrastructure refers to the electronic and paperless administrative system, organizational support system, educational and technical system for students, professors and staff, etc. (Farajollahi, 2015). The evaluation indicators of the model as a whole indicate the desirability of the factor model of the human infrastructure component. The factors of this component of distance education are: specialized human resources, learners of human infrastructure. Setting up the distance education system requires technical and support staff, technical and educational designers, planners, managers, teachers and learners as main users and actors. It is an educational system.

Lee (Lee, 2015) in research findings consistent with this study states that the role of the teacher in distance learning in terms of behavioral and emotional support and technology awareness in increasing self-direction in learning should not be overlooked.

The rural distance education model that the researcher has achieved in the present study consists of 7 main components. The results of confirmatory factor analysis showed that this model has 25 factors on these 7 main components namely management and leadership infrastructure, economic infrastructure, technical infrastructure, educational infrastructure, socio-cultural and value infrastructure, organizational infrastructure and human infrastructure. The evaluation indicators of the totality of the factor model in general indicate that the fit of the data to the model is established. In this research,  $\chi^2 / df$ , RMSEA, GFI, NNFI, and IFI indices have been used to fit the model, and the number related to each of these indices is acceptable in its range, and this indicates the good fit of the model. The nature of the present study is such that the final results are presented in the form of a proposed framework, a framework for identifying topics related to rural distance education. To apply this framework, it is recommended that all identified themes be used. Considering the themes of management and leadership infrastructures, a basic and comprehensive planning should be done regarding the establishment of rural distance education. The results of the theme format showed that the educational infrastructure is one of the main themes. In this regard, it is suggested that the quality of information and content of the rural distance education system be appropriate to the needs of learners and be properly organized in a classified manner, If the educational needs assessment can be done before the start of the course. The results of the theme format showed that the technology infrastructure of the themes is significant. In this regard, it is suggested that attention be paid to the access of rural learners to computers, the Internet, and the shift of teaching methods to online, multimedia, virtual education, textbooks, and interactive environments. In relation to organizational infrastructure, it is suggested that the training system be designed in such a way that it is possible to communicate and receive feedback between all people involved in this system. It is important to choose the appropriate educational media in accordance with the needs of rural learners in this field.

In relation to human infrastructure, it is suggested that learners interact with expert facilitators and receive feedback from facilitators so that both groups can easily communicate with each other, and if the goals of the rural distance education system are clear during the course. And it is clear that it will have a positive effect on the perspective of learners. Due to the importance of human infrastructure in distance education centers, especially teachers and support staff, it is recommended to provide extensive training in various forms (workshops, brochures, CDs, self-supporting software, etc.) Provide them with incentives to work in distance education centers. It is suggested that due to the current limitations in terms of technology, pedagogical, economic, and human, etc. in the country's organizations. According to the potentials that each of them has in specific fields, with synergistic cooperation and partnerships between institutions and organizations and distance education centers, a synergistic environment should be created to start this work. It is recommended that distance learning courses be implemented in a limited way first, then after evaluating and determining the strengths, weaknesses and shortcomings, and solving the problems, gradually expand it. Due to the mission of distance education centers in providing educational opportunities for everyone, especially people in remote areas and the lack of access to computers, Internet, etc., it is recommended that public Internet centers or kiosks like home Health centers and rural telecommunication centers should be established in remote areas and villages.

Given that the work of distance education centers should be as a team (specialists in technology, pedagogy, economics, planning, etc.), it is recommended to train teachers, technical staff to create a common language before starting work. And provide support, managers and education planners for the country.

## References

- Anal A, Pradeepkumar J, Panchanatham N. (2012). A study on impact of rural college students in E- learning. *Perspectives of Innovations, Economics and Business*, 4: 98-102.
- Azizi N, Shahmohammadi A, Naghdi H. (2013). Obstacles to the implementation of distance learning and identification of solutions for its optimal implementation: A Tailor of the Viewpoint of Directors and Teachers of Secondary and Secondary Schools. *Journal of Educational Technology*, 2, 103-114.
- Babaei M, (2010). *Introduction to E-Learning First Edition*. Tehran: Iran Institute of Information Science and Technology, Chabaha Publishing, 292 pages
- Daniel K, Gundogan M, Eby G. (2010). A Green touch for the future of distance education. *Procedia – Social and Behavioral Sciences*, 55: 789 – 798.
- Dec'man M. (2015). Modeling the acceptance of e-learning in mandatory environments of higher education: The influence of previous education and gender. *Computers in Human Behavior*, 49: 272–281.
- Dray J, Lowenthal R, Miszkiewicz J, Ruiz-Primo, A, et all. (2011). Developing an instrument to assess student readiness for online learning: A validation study. *Distance Education*, 32(1): 29 - 47.
- Farajollahi M, Sarmadi M, Saeedipoor B. (2019). Presenting a model for optimizing scheduling and reducing costs in the virtual education system (distance) with the aim of providing a model for optimizing scheduling and reducing costs in the virtual education system (distance education). *Scientific-Research Journal (Ministry of Science)*, 39: 122-91
- Garcia Cabot A, De Marcos L. (2015). An empirical study on m-learning adaptation: Learning performance and learning contexts. *Comput Res*. 82: 450-459.
- Gemin B, Smith B, Vashaw L. (2018). *Digital Learning Strategies for Rural America*
- Gharabaghi et al. (2010). E-learning from theory to practice. *Quarterly Journal of Management on Disciplinary Education*. Third year. Fourth number.
- Khoshnoodifar Fathi Vajargah K. (2011). Internationalization of curricula with distance learning approach. *Journal of Educational Technology*. 2: 106-87
- Lee R. (2015). *The Effectiveness of distance education in small rural high school: A phenomenological study*. PhD thesis. Liberty University.
- Masto C. (2018) *Open and Distance Learning in Rural Communities of Zimbabwe: Exploring Challenges Faced by Zimbabwe Open University Students in Kadoma District*, Zimbabwe Mineral County Independent News.
- Means B, Toyama Y, Murphy R, Bakia M, et all. (2009). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies.
- Mutanana N. (2018). *Open and Distance Learning in Rural Communities of Zimbabwe*, The Journal of Asian Studies.
- Najmul A.K.M. (2016). E-learning system use and its outcomes: Moderating role of perceived compatibility. *Telematics and Informatics*. 33: 48–55.
- Odunaike S, Olugbara O, Ojo S. (2013). E-learning Implementation Critical Success Factors. *Proceedings of the International MultiConference of Engineers and Computer Scientists*; 2013 March 13-15; Hong Kong. IMECS. 1-6.
- Ozyurt O, Ozyurt H. (2015). Learning style based individualized adaptive e-learning environments: Content analysis of the articles published from 2005 to 2014. *Computers in Human Behavior*, 52, 349–358.
- Ramdas R, Samigulina G, Samigulina Z. (2018). Intelligent system of distance education of engineers, based on modern innovative technologies. *2nd International Conference on higher education advances*. Valencia. Spain. June 21-23. 229-236.
- Sarmadi A. (2013) Necessary mechanisms to improve the quality of distance education for evolving societies. *Iranian Journal of Engineering Education*. 2(7): 119-109
- Singh B. (2016). *Learning through Massive Open Online Courses (MOOCs) A case of the first international MOOC delivered by UiO in 2015* (Master's thesis).
- Valess D, Sahin I, Shelley M. (2009). Considering students perceptions: The distance education student satisfaction model. *Educational Technology and Society*, 3: 216 – 223.
- Veletsianos G, Houlden Sh. (2019). An analysis of flexible learning and flexibility over the last 40 years of Distance Education, 454-468.
- Yan li D, Caspi A, Gorsky P. (2011). Instructional dialogue: distance education student's dialogic behaviour. *Students in Higher Education*, 31: 735-752.
- Yugen M, Guohong G, Ning L, Wenxian X, et all. (2010). The Study on the development of internet – based distance education and problems. *International Conference on Future Electrical Power and Energy Systems*. Hainan University. 1362 – 1368.
- Zawacki-Richter O, Buntins K. (2019). The position of Distance Education in a journal network.