Applications of Human-Centered Artificial Intelligence and Open Educational Resources to Improve E-learning: Case Study of "Online Journalism" Lesson

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Abstract

Purpose: The purpose of this article is to analyze the evolution of open educational resources and its application in electronic learning and online journalism. For this purpose, the following questions have been answered: a) How did the term open educational resources come about and what is its evolution? b) What are the characteristics of open educational resources? c) What is the use of open educational resources in e-learning?

Method: To answer the research questions and realize the aforementioned goal, the case study method was used. The necessary data has been collected, arranged and analyzed through documents at the national and international level. Among these documents: UNESCO publications and reports, articles and other academic publications were relevant.

Findings: The starting point of the formation of open educational resources has been to make university classrooms available to those interested in higher education by popularizing "open textbooks". Based on this experience, UNESCO named this type of action as Open Educational Resources (OER). After that, several efforts were made and the use of open educational resources was investigated with the participation of academics and the implementers of education programs for sustainable development. Thus, international efforts have expanded to learn how to prepare and disseminate open educational resources.

Conclusion: Open educational resources include those resources that are free of charge, with an "open certificate" (CC), the possibility of receiving, applying, revising, combining and redistributing them is available for users. UNESCO has explained the mentioned concept. Among these, six types of licenses or "open certificates" (CC) have been compiled. Although various types of these certificates can be used in the production and distribution of educational resources and content for face-to-face training and online journalism, it has a potentially wider use. For example, at the end of this article, an example of open educational resources in the field of communication sciences is mentioned.

Keywords: Open Education Resources, CC Certificate, Open Learning, Open Access Publishing, E-learning, Human-Centric Artificial Intelligence

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1. Introduction

Open educational resources are a concept whose starting point can be linked to MIT University of Technology. In 2001, in order to make the university's classroom space available to those interested in higher education, "Open Courseware" (OCW) contracted every course for everyone to use on the university's website.

The following year, UNESCO, in the conference on to improve the quality of education, this type of action is called Open Educational Resources (OER). After that, significant efforts were made in order to provide e-learning resources to everyone in order to achieve learning goals in the framework of sustainable development.

In 2017, the second congress of open educational resources was held in Slovenia. In order to hold this congress, UNESCO tried to plan and hold five consultative meetings in different parts of the world. According to the results of the five meetings and the experience of different countries about open educational resources, he decided to hold the second mentioned congress.

The purpose of holding consultative meetings was to find out about the successes and efforts of various open educational resources in order to provide "necessary methods and recommendations" to the member countries. In this way, international efforts to familiarize with how to prepare and disseminate educational resources have expanded (UNESCO, 2019; Butcher, 2015).

2. Definition of Open Educational Resources

In the simplest terms, open educational resources are those educational resources that are freely and freely available to teachers and learners; In other words, these resources can be used without paying a fee (Butcher, 2015). The following are considered educational resources:

- Curriculums (such as OCW)
- Educational materials and content (such as MOOCs content)
- Textbooks (such as Bates book)
- Educational videos (like TED-Ed)
- Multimedia educational materials (such as Wiki-books)
- Podcasts (digital audio media content, such as audiobooks)

As mentioned above, Open Educational Resources has a history that started with the introduction of "Open Curriculum" (OCW). Of course, this usage refers to a smaller subset of Open Educational Resources. A detailed definition can be found in the collection of O.C.W. observed.

The importance of open educational resources lies in using them for education and sharing them. Of course, there is a fundamental difference between open educational resources and other educational resources. This difference is related to the certificate to which it is awarded. In other words, an open educational resource contains a special certificate (CC).

This certificate facilitates the reuse of said resource and allows its potential exchange, without obtaining permission from the "copyright" holder (Butcher, 2015). But it should be noted that although more than two decades have passed since the beginning of the efforts

related to the emergence and expansion of the concept of "open educational resources", there is still a lot of room for related research (Wiley, 2021).

Some people think that open educational resources are synonymous with e-learning. But it should be noted that although these resources are used in electronic learning, they are not synonymous with it. The content of many e-learning courses and lessons can be made into open educational resources, but this does not mean that open educational resources are e-learning. Of course, many open educational resources that are currently produced have a digital format and They can be shared and can be printed. For example, the website of the International Center for Technical and Vocational Education and Training affiliated to UNESCO (UNESCO, 2023) has shared some resources, including books, etc.

Also, it is necessary to remember that open educational resources are different from "open education"/open learning. Although open educational resources can be used in open education, they are not the same. The use of open education (or open learning) in terms of the field of practice, goes far beyond the use of open educational resources in educational programs. An open learning/open teaching system requires validation, assessment of learning, learner support system, curriculum frameworks, mechanisms to ascertain learners' prior knowledge, and other aspects that indicate the degree of "openness" or "non-openness" of the system.

Open learning is an approach to education that seeks to remove all barriers to learning; So that students can successfully achieve learning outcomes and educational goals based on human needs in multiple fields of learning. "Open learning" relies on several key aspects as follows:

- Learning opportunities should be continuous and include continuous learning (Mashaikh and Bazargan, 1402);
- The education process should be learner-centered, so that it is based on the previous experience of the learner, encouraging critical and independent thinking;
- The provision of learning resources should be so flexible that its learners can choose when, where, with what content and how they will learn according to their learning speed;
- The learner's prior learning, prior experiences, and demonstrated competencies should be recognized so that learners are not denied learning opportunities due to lack of appropriate competencies;
- Learners should be able to save the course units passed in different learning environments;
- Providers of learning opportunities must provide conditions that provide a relative chance for the learner to succeed. As the above shows, the effective use of open educational resources can help some of the mentioned aspects, but open educational resources and open learning/teaching are still different in meaning and in practice (Butcher, 2015).

In short, open educational resources are educational materials that are not "copyrighted". However, to ensure their quality, it is necessary to obtain a license ("open certificate"). Various options are available for open certification. Some legal options grant permission to copy content. But others allow users to modify and use the desired content. The best available framework is the CC open certificate (CC, 2023).

The need to set policies and national plans and programs in comprehensive support of open educational resources to increase access, improve quality and reduce education costs at the global level is demanded (Olivier, J., & Rambow, A. [Eds.], 2023).

The opportunities, operational challenges, and practical issues related to the optimal use of open educational resources in the higher education system are presented in Figure 1.





3. Open Certificate Options

The options of this certificate are as follows:

1- Attribution 4.0 (CC BY)

The user can freely copy, use, or modify the content, combine it with other content, or redistribute the same; or for any purpose, including commercial use of contracts, provided that the name and logo Mention the main author of the work.

2- Attribution–NonCommercial 4.0 (CC BY-NC)

User may freely copy, use, revise, combine and redistribute the Content; provided that he mentions the name and sign of the main author of the work; But it is not allowed to make material use of it for commercial purposes. In addition, in this case, there is no need to receive a new certificate.

3-Attribution–NoDerivs 4.0 (CC BY-ND)

The user can copy, use, redistribute the content free of charge and engage in commercial exchange of the original work without changing it, provided that he mentions the name and logo of the original author of the work.

4- Attribution-Noncommercial-Share Alike 4.0 (CC BY-NC-SA)

The user can freely copy, use, revise, combine and redistribute the content, but is not allowed to engage in commercial exchange and material use of it; Also, it should mention the name and logo of the original author of the work and have received the open certificate with the same specifications as the original work.

5- Attribution-Noncommercial-NoDerivs 4.0 (CC BY-NC-ND)

The user can freely copy, use, and redistribute the content without revising it, but is not allowed to engage in commercial exchange and material use of it; Also, he must mention the name and logo of the original author of the work and mention the open certificate with the same specifications as the original work that he received. This framework provides a legal mechanism by which content creators can retain some of their rights to the work while sharing the rights arising from their work with others.

The creation of the CC certificate helps researchers and authors of specialized texts of higher education to provide "open knowledge" to users for free (CC, 2023). In this way, it is expected that such an approach can take a further step in the direction of equality with the agreement of knowledge and culture at the disposal of all.

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4. Electronic Learning, Its Levels and the Use of Open Educational Resources

E-learning is not only the application of science and information and communication technology in education, but ideally, the purpose of its application is to improve the learning environment and the performance of learners. For this purpose, open educational resources play a decisive role (Navarrete, et al., 2016). Considering this ideal state, electronic learning systems have been developed in higher education (AECT, 1977; Stensaker, et al., 2007; Weller, 2023).

Although this development has been noted for the past few decades, the Covid-19 epidemic in 1398-1400 solar years caused electronic learning systems to replace face-to-face classes in all countries of the world (Bazargan, 2021). In addition to that, the application of human-centered artificial intelligence in higher education was also considered (UNESCO, 2021/Bazaregan translation, 1401). The use of human-centered artificial intelligence technologies, especially with the spread of chatbots (same source, p. 45) as well as "G.P.T. chat" (G.P.T.) in higher education is increasingly attracting the attention of teachers, students, as well as managers and policy makers of higher education. has attracted in most countries (Henry, et al., 2021).

The experience that higher education systems gained in implementing e-learning during the Corona epidemic has caused the desire to use a combination of e-learning with face-to-face education to increase in post-corona as well. To make this issue clearer, we consider the definition of e-learning. One of the definitions of e-learning is as follows: "e-learning includes the use of digital technology in teaching and learning along with the use of pedagogy (the science and art of teaching-learning) and teaching strategies to design and implement Internet-based learning environments" (Navarrete and Luján-Mora, 2017).

On the other hand, the approaches of "teaching face-to-face in the classroom" and teaching in the virtual classroom (completely "online)" can be placed on two ends of the same spectrum. Various combinations of these two modes create many cases. Each teacher can decide to choose one of these combinations, which is suitable for the desired situation (Henderson, et al., 2015). It should be remembered that no reliable research information has been provided about the effect of these combinations on the achievement of learning outcomes (Bates, 2015, p. 338).

Therefore, the teacher can choose the right combination according to his previous experiences. Despite the mentioned point, the optimal use of electronic learning systems and the use of open educational resources can lead to the achievement of learning outcomes by learners. Of course, it should be noted that the mentioned systems are composed of a set of factors (infrastructure, organization, input and process) with various combinations of these factors. How these combinations lead to the creation of various electronic learning systems.

Based on the set of mentioned factors and their combination, electronic learning systems can be classified into six types (Bazargan, 2011):

- Type 1: The behavior of the teacher is similar to the face-to-face classroom;
- Type 2: The teacher's use of media resources in addition to the digital text;
- Type 3: The teacher's use of information and communication technology-based tools in the online class;
- Type 4: The teacher in the role of guide and facilitator, emphasizing interaction (with the teacher / with resources / with classmates);
- Type 5: The instructor's use of constructivism and open educational resources (OER);
- Type 6: Implementation of an e-learning ecosystem (including six components), emphasizing the use of open educational resources.

As can be seen in the mentioned list, although open educational resources are widely used in types 5 and 6 of e-learning, open educational resources can also be used in other types of e-learning. However, it depends on the instructor to How to direct learners to open educational resources. However, in this regard, some researchers (Yau, et al., 2009) have pointed out that e-learning requires the use of a constructivist teaching-learning approach.

Therefore, in the professional development programs of teachers, in addition to making them more familiar with the use of techniques and methods based on information and communication technology, how to integrate pedagogy with these techniques in higher education should be considered (Mndzebele, 2013; Stensaker et al., 2007). Also, teachers should get familiar with open educational resources.

On the other hand, models for generating open educational resources for e-learning have also been proposed. These templates include: components as follows: permissions, free, access and rewrite, modification; Change and integration are learning models, resource quality and validity. The researches that have been done in this regard in Iran show that "familiarity with open educational resources is not well established in university education in Iran, and even the terms in this field are unknown to most of the professors and need more promotion" (Norouzion et al., 2020).

5. Conclusion

As a matter of fact, the publication of paper and electronic publications has faced the limitation of "author's right". In the 21st century and the emergence of the fourth industrial revolution, the growth of information is such that it reveals the importance of learning as well as active, in-depth and continuous learning (Mashaikh and Bazargan, 2023) for citizens more than ever. Therefore, it is necessary to facilitate the implementation of the "higher education for all" policy.

According to many experts, in the last two decades when "open educational resources" emerged, they considered it a new revolutionary idea in higher education (Atkins et al., 2007). In other words, according to the aforementioned researchers, equality and greater access to higher education can be provided through open educational resources. However, the benefits of open educational resources have not yet been fully revealed in practice, but it is expected that the idea of "cooperative learning ecosystem" will be considered (same source). In other words, the interweaving of information and communication technology, including technologies related to Human-centered artificial intelligence and the concept of "openness" in teaching and learning enhance the cooperative learning ecosystem.

On the other hand, the process of producing and using open educational resources can be obtained through six types of licenses (certificates) under the title of CC. There is no doubt that open educational resources are free and accessible. But according to one of the six licenses, the following actions can be taken about them:

- Rewriting
- Modification and change
- Integration with educational materials and other content

Of course, the CC certificate of an open educational source shows the quality of the source and its authenticity.

The use of open educational resources should become a top-down priority for all higher education institutions around the world. Often, teaching groups and faculty work in silos, where the same teaching materials are used each time a course is taught. If access and innovation are not prioritized in our courses, the challenge of finding effective textbooks and course resources will be prioritized by students instead of focusing on learning activities.

Global economic conditions not only require an educated and capable workforce, open educational resources also promise equity in education and learning for marginalized global citizens. As the functionality of open educational resources continues to be adopted and evolved, sustainability and challenging issues of open educational resources with innovation, collaboration, and flexibility can be discussed.

Considering that in Iran's educational system, academic staff members and managers are still not familiar enough with the concept of open education resources and its use for teaching and learning (Norouzion et al., 2021), it is necessary to familiarize with this at the level of managers and policy makers first. The concept is implemented. Then, to familiarize the academic staff with how to produce and obtain permission to ensure the quality of resources and their validity, educational workshops and relevant meetings should be held at the university level. Also, it is necessary for all academic staff members and administrators to familiarize themselves with the basic concepts of human-centered artificial intelligence and then act for its wise application in the field of how to enrich the learning experience and performance of their students.

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