

## Digital Content Management and Virtual Learning

**Mohammad  
Hassanzadeh** \*

Professor, Tarbiat Modares University, Tehran, Iran.

### Abstract

For years, virtual learning has been proposed as a dominant approach to overcome the limitations of traditional education. The spread of emerging technologies and the connection of citizens to the Internet has made virtual courses much more accessible than before. As the citizens of the third millennium refer to electronic shopping centers to purchase their goods, they expect to receive the instruction they require through virtual means. This trend, along with the increasing expectations, has created a gap between the current and the desired situation in the education process. Digital content management is considered as a facilitator to respond to emerging requirements. In this article, while explaining the dimensions of transformation in Virtual learning, the importance of digital content management in improving the effectiveness of virtual learning has been emphasized. The article would be a starting point for further research on the integration of digital content management in the virtual learning process.

**Keywords:** Virtual learning, Digital Content Management, Blended Learning, Integration, Information Science

\* Corresponding Author: hasanzadeh@modares.ac.ir

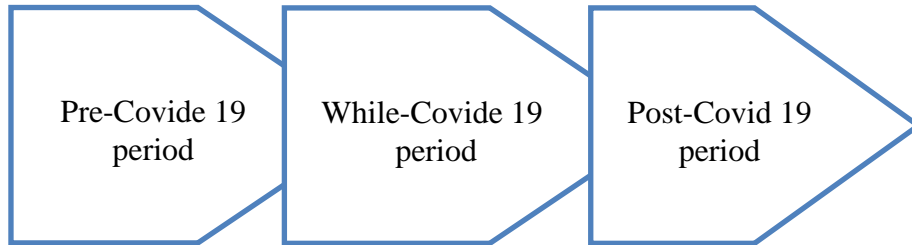
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## **Introduction**

After the advent of the Internet, the spread of virtual learning has become more extensive day by day. More than a decade ago, educational and research institutions started offering virtual courses, which were quickly welcomed due to their high flexibility. Although there is no clear statistics of the current students and graduates who have completed their degrees through virtual courses, it is evident that virtual learning has now become an integral part of the education. The outbreak of the Covid-19 in early 2020 can be considered a turning point for the advent of Virtual learning. When the pandemic started, universities and schools were forced to offer their courses on online platforms. In other words, online education has served as the savior of the education industry in most cases. Of course, with the normalization of the situation and the return of students to university campuses, a dual feeling was created towards virtual learning. On the one hand, the advantages of unrestricted learning in virtual space could not be ignored. On the other hand, university campuses and face-to-face education could not easily be replaced by virtual learning. In the meantime, the adoption of the blended learning seemed as the third choice, which had already been used as a part of educational strategies before the outbreak of Covid-19. Blended learning, combines physical and virtual training means to increase the effectiveness of education.

## **The evolution of virtual learning**

Virtual learning has many advantages for teachers and learners. Students can easily connect to the class from anywhere and have access to various resources while learning. They can easily communicate with their classmates and peers before and after the class. Forming discussion groups, participation in social networks, and access to various resources helps them consolidate their knowledge and sustainability. The possibility of accessing recorded content, relevant feedback, and removing restrictions related to face-to-face interactions has made virtual courses more attractive. If we are to have a chronological view of the process of popularization of virtual learning, three periods can be separated so far: a) pre- Covid-19 period, b) while- Covid-19 period and, c) Post-Covid 19 period, as presented in Figure 1.



**Figure 1. Virtual learning popularization process**

In the pre-Covid-19 era, virtual learning was considered a growing trend over 25 years. During this time, virtual training started in the form of uploading digital content and providing electronic feedback. With the passage of time and the emergence of virtual communication technologies, the possibility of simultaneous and real-time interaction between the student and the teacher was also provided. So that in the years after 2010, holding virtual conferences and online training courses were considered as an option next to in-person choices. In this period, virtual learning was considered as a complementary solution. Many universities and institutions offering certificate courses have tried to combine massive online open content with virtual classroom capabilities. The achievement of this course has been the introduction of *Virtual learning as a supplement*

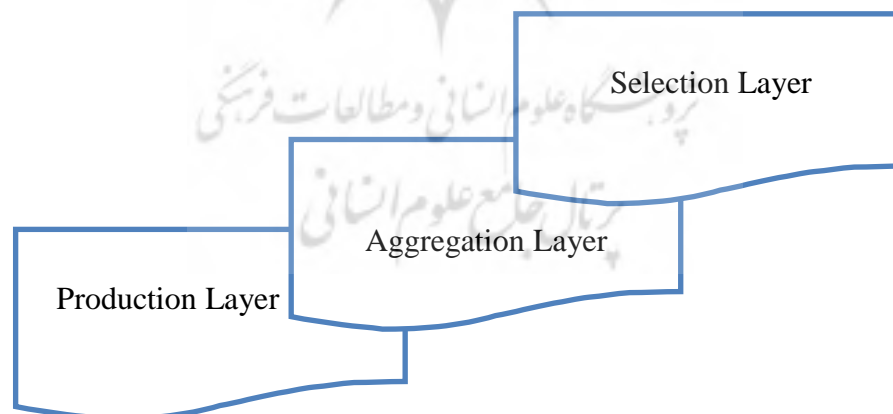
With the outbreak of Covid-19 and limitations related to students' access to face-to-face courses, virtual learning became the only option before them. During this period, significant investment was made by universities, institutions, and even learners. Providing the required infrastructure and purchasing online classroom systems and developing learning management systems with online connectivity and increasing the skills of teachers and students have been among the achievements of this period. In this course, all students and teachers were introduced to the experience of online education. The fear of being in online educational environments has largely disappeared among policy makers, teachers, administrators and learners. At the same time, as the level of adoption of virtual learning increased, significant digital content were created and distributed.

The post-covid19 course shows a different experience. On the one hand, the nostalgia of attending university campuses encourages learners to express their interest in face-to-face education. On the

other hand, the flexibility of virtual learning remains a viable driver. Therefore, blended training appears as an intermediary strategy. Combined training provides the possibility of simultaneously benefiting from the capabilities of virtual training and the attractions of face-to-face training. In this period, the existence of a realistic view and constructive policies will help the effective growth of combined education.

### **Content management and virtual learning**

Content has always had a special place in the learning process. Textbooks, for example, have played an effective role in conveying the content of education. Although constructivist approaches emphasize the gradual creation of knowledge, content is still of great value as the starting point of the learning journey, the connecting bridge of the conceptual map, and the ground for discussion and feedback. In such a way that in the process of learning, identifying and introducing the appropriate content is considered one of the most important tasks of the instructor, and this role has become more prominent in blended learning. Virtual learning has multiplied the importance of digital content. The features related to the flexibility of digital content have increased their attractiveness in the blended learning process. For this reason, digital content management is at the heart of the blended learning process.



**Figure 2. Digital content management layers for virtual learning**

As shown in Figure 2, digital content management is the process of

identifying, creating, organizing, dissemination, and application of digital content with the purpose of value creation. Digital content management is a multi-faceted and multi-layered process. The first layer of digital content management contains content production. Content production specialists are responsible for content preparation. They collect digital content components based on the predetermined criteria and manipulate them into a usable product using suitable hardware and software platforms. In the second layer, aggregators as providers and intermediaries are responsible for collecting content and packaging them in the form of offerable services. Aggregators try to provide the right content to users by their brokerage skills and market knowledge. Providing support and updating services as an insightful service strengthens the relationship of aggregators with content creation specialists. The third layer includes content selectors. Content selection is very important and vital. Today, it is necessary for teachers to have the competence of content selection. Along with teachers, one can also get help from professional content selection experts so that the process of selecting and introducing suitable digital content can be done with confidence.

### **Actions required**

Digital content management is considered as an integral part of the blended learning. Without the required competencies and without considering its implementation in the education process, it is very difficult to imagine significant success for the education process. Digital content management is considered a defined task for educators and eLearning planners. The more developed and mature gets the process of virtual learning, the more essential will be the need for digital content management. To integrate digital content management in virtual learning, it is necessary to consider the following actions:

- Adapting digital content to the education process
- Development of digital content management skills within the teachers' community of practice
- Developing and implementing digital content management strategies for virtual learning
- Developing the capabilities of virtual learning systems for content integration
- Using the capabilities of professional organizations for content development

The extension of virtual learning from the institutional level to individual education increasingly develops the digital content market and makes it an inseparable part of the social life of the citizens of the 21st century. To achieve an acceptable level of success in a popularized virtual learning, it is recommended to consider teaching digital content management as a complementary course alongside virtual learning paradigms. Close cooperation between education specialists, especially those involved in virtual learning, and content production seems vital in this field.

### Conclusion

Virtual learning is very important not only as a method of education but also as an effective approach to popularized education. Digital content plays more important role in virtual learning than the traditional education. In virtual learning, the success of courses depends on learners' access to usable and well-curated content. Traditional approaches to education usually fail to understand the importance of digital content management in virtual learning. Meanwhile, the integration of digital content management in virtual learning helps to improve the success rate of sustainable learning. In virtual learning, an important part of educators' competencies is dedicated to identifying, selecting and introducing digital resources. Citizens of the 21st century seek education in the palm of their hands and expect to obtain organized digital resources through the tools available to them. puts a serious burden on the shoulders of educational policy makers, planners, and practitioners as well as the related bodies in information science.

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