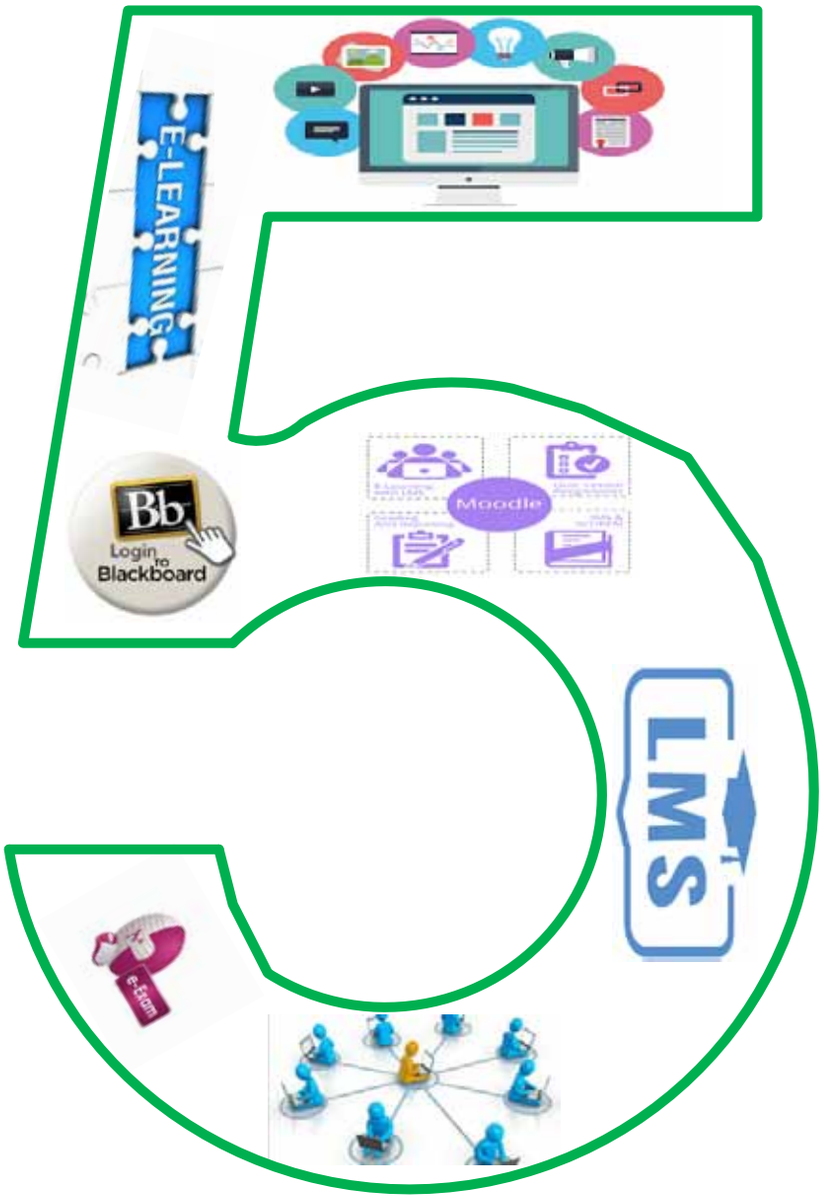
Chapter 5
E-learning



E-learning

Objectives

Main objectives:

1. Knowingabout e-learning, methods and systems.
2. Knowing about Shams platform.

Sub-Objectives

After studying this chapter, the student is expected to master the following knowledge and skills:

1. Know about e-learning in terms of origination and components.
2. Know about e-learning objectives.
3. Distinguish between e-learning systems and their different types.
4. Know about e-learning methods.
5. Know about the Blackboard system used in the university.
6. Distinguish between different e-learning systems.
7. Know about one of the distinguished e-learning platforms (Shams platform)

5 -1 Introduction to E-learning

The emergence of digital e-learning is linked to the emergence and spread of the Internet, although early e-learning attempts exist, for example:

- In the 1920's, the educational radio appeared.
- In the 1950's, television appeared.
- In 1963 the University of the Air in Britain appeared and was later called the Open University.
- In 1985 the emergence of distance education and the use of the Internet.
- In 1990, distance education spread using digital technology via computers and the Internet.

However, e-learning systems did not appear until 1995 AD, and developments continued until the emergence of the Blackboard system in 2006 AD in Washington, America.

Among the most important modern trends in e-learning:

- ***Massive Open Online Courses (MOOCs)***

These open online courses allow millions of people around the world to train together in one session.

- ***Mobile-learning***

Training courses are available online on portable electronic devices such as mobile phones, tablets, etc. This allows learning opportunities at any time, from anywhere.

- ***Learning through Social Media***

Social media can become an essential forum for sharing ideas and academic lessons. Therefore, it may be a fertile environment for e-learning, as did educational channels appear on YouTube, for example.

- ***Virtual Technology***

Future virtual reality technology can place learners in the role of explorer, astronaut, historical character, etc. Wearable tech devices like Google glasses and others can be a way to learn.

- ***Gamification***

Future e-learning courses are more likely to resemble an interactive video game rather than a traditional lecture.

5.2 E-learning Components

Skill 5 - 1
Knowing about the components of e-learning.

E-learning is presented in two methods, namely, self-e-learning, also called Web-based training (WBT) in which educational programs are usually placed on a web server. the second method is e-learning that is provided by the professor and provides lectures and electronic activities.Various types of e-learning components can be combined together, such as e-learning content, e-teaching and training, collaborative learning, and virtual classes.

5.2.1 E-learning Content

E-learning content is provided in the following ways:

- Simple Learning Resources: uses simple non-interactive resources such as documents, presentations, videos or audio files. These materials are non-interactive so that students can read only or view the content without doing any other work.
- Interactive e-lessons: it is the most used method for e-learning and is used to interactive electronic materials, and includes text, animation, audio and video.
- Electronic simulations: it is the use of simulations for the real world, which allows learning to be more effective than ordinary e-learning.

5 -2- 2 Teaching and E-training

Teaching and e-training can deliver services that provide human and social dimensions for students to support them through the learning experience.

E-training is defined as the process in which an interactive environment that depends on the computer, networks and multimedia is created, which enables the trainee to obtain the training objectives by interacting with such sources, in the shortest time possible, with the least effort exerted, and at the highest quality levels without being restricted to the limits of the place and time.

E-learning is offered at different levels for the educational institution. For example, at Bisha University, teaching is offered at three levels: supportive e-learning, blended e-learning, and full e-learning. E-learning provides individual support to the student through e-learning tools.

5- 2 -3 Collaborative E-learning

Collaborative e-learning is a strategy that helps students to learn together using collaborative learning tools. Collaborative activities are formed through e-learning management systems and from collaborative programs such as chat, wiki, web conferences, social networks and conversation. Figure 51- explains the most important Collaborative e-learning tools.

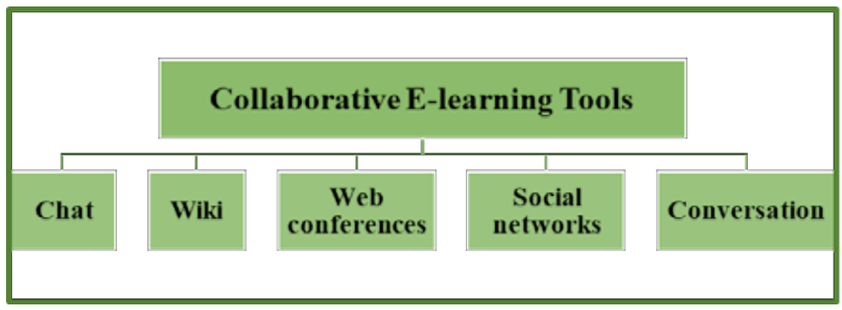


Figure 5-1: Collaborative e-Learning tools

5 -2 -4 Virtual Classes

Virtual classes, smart classes or virtual classes are one of the types of synchronized e-learning in which the staff member and students meet at the same time through a virtual environment, and not necessarily in the same place. This is done by virtual classroom systems and through which the staff member can provide electronic content and electronic activities for students over networks to participate in collaborative learning situations.

3- 5 E-Learning Objectives

Skill 5 - 2
Knowing about e-Learning objectives.

E-learning aims to many objectives, including:

- It increases opportunities for learning.
- Develops students' skills and competencies by using web and other technologies.
- Presents content in various electronic forms.
- It improves the learning process, and helps the staff member to improve and develop the course.
- It enables students to self-learn.
- It provides an opportunity for collaborative learning among students.
- It works to keep abreast of technological developments in the field of learning.

- It enables staff members from abroad to participate in the learning process.
- Contributes to the creation of infrastructure and a base of information technology for universities.
- Provides multiple sources of knowledge.

5 -4 Types of E-learning

E-learning is divided into synchronous and asynchronous, and each type has its advantages.

Skill 5 - 3
Knowing about synchronous e-learning and tools..

5 -4 -1 Synchronous E-learning

Synchronous e-learning is sometimes called direct learning and it requires that its activities occur at the real time, but not in the same place. Its tools include text chat, audio and video conferences. Figure 52- shows these tools.

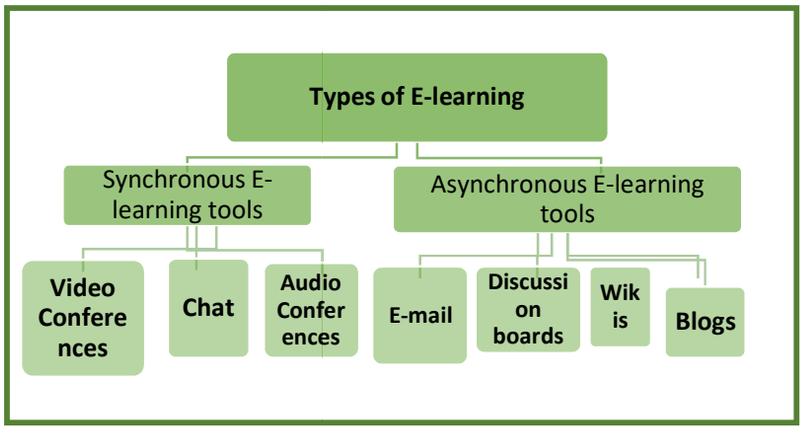


Figure 5-2: Types of e-learning

Synchronized Communication Tools:

- Chat: it is a tool of synchronized communication tools in the form of text messages, helping students and staff members to discuss a specific topic of the course topics, and it is an integrated tool in all e-learning systems.
- Audio Conferences: it is a tool of synchronized communication tools that are in the form of audio messages, connecting the speaker (the lecturer) with a number of recipients (students) in separate places.
- Video Conferences:in which the audio and video are delivered directly over the air via the virtual session of the lecture and are in real time.

Skill 5 - 4
Knowing about asynchronous e-learning and its tools.

5 -4- 2 Asynchronous E-learning

Asynchronous e-learning is one of the most common types of learning because it does not require synchronization in time to learn, as the student can interact with the content in its various forms in their spare time. Examples of itstools are wiki, blog, forum and e-mail. Figure 53- shows theasynchronous e-learning tools.

Asynchronous Communication Tools:

- ***E-mail:***

It is considered as one of the most important means of communication between the student and the staff member, or the students among themselvs. In each course, there are different e-learning systems that are used by students and the staff member to communicate with each other.

- ***Discussion boards:***

It is the most used in learning and it is considered one of the interactive activities, in which the teaching member participates and the students respond or participate without being present at the same time.

- ***Blogs:***

It is the most used Web 2.0 technology, and it is one of the basic interactive electronic activities in learning management systems. It is a specific activity that is activated by the staff member, whereby students write their ideas to participate in this activity.

- ***Wikis:***

It is an interactive activity, whereby the staff member raises a topic in the relevant wiki activity. All students participating in the course are allowed to amend and add the relevant topic, which develops students› knowledge.

Skill 5 - 5
Knowing about e-learning methods.

5 -5 E-learning Methods

Figure 5 -3 shows the most important modern e-learning methods that work on the success of the e-learning process, which depends on the computer, the Internet, the web and the virtual environment.

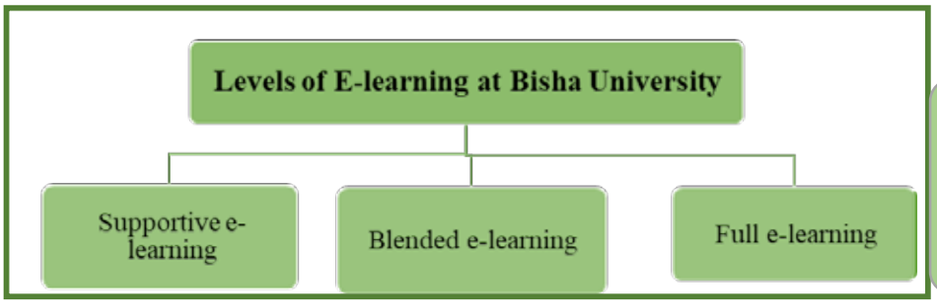


Figure 5-3: levels of e-learning at Bisha University

5- 5- 1 Learning by Computer

The use of computers has led to the development and improvement of the learning process electronically, so computers and networks are the backbone of e-learning management systems.

Uses of computer and network in e-learning:

- Individual learning.
- Computer aided learning.
- Learning as a computer a source of information.
- Computer networks are the basis for e-learning systems.

Necessaty of learning by computer:

- Because of the knowledge explosion and the information revolution.
- Easy to learn and use.
- Low prices compared to its big benefits.
- Provides a new and developed way of learning.

5- 5 -2 Learning in a Virtual Environment

It is a modern type of learning similar to regular classroom learning in terms of meeting students and staff members at the same time, except that it provides electronic content from electronic sources and activities over e-learning management systems with its various tools.

There are numerous systems for managing virtual classes, including (Bb Collaborative). Interactive tools in the virtual classes include:

- Video call.
- Text chat.
- Electronic whiteboard.
- Voice dialing.
- Shares an application from the staff member device.
- Share files.

5 -3 -3 Learning through the Web

The web has provided many services for learning through the stage 1.0 and the web 2.0. Examples of services provided by the web 2.0, which are used successfully in learning, are site feeds, blogs, wikis and other web 2.0 technologies.

5- 5 -4 Learning over the Internet:

It means delivering e-content and activities via internet learning management systems.

The most important factors that helped to use the Internet in learning:

- Address the temporal and spatial dimensions.
- Save time and effort to obtain information in terms of speed of access to information.
- Provides collaborative learning opportunities.
- Developing teaching methods and systems.

Skill 5 - 6

Knowing about the types of E-learning used at Bisha University.

5- 6 Using E-learning in Teaching at Bisha University

Bisha University included e-learning in teaching e-courses at three levels: supportive e-learning, blended e-learning, and full e-learning. Figure 5- 4 shows these levels.

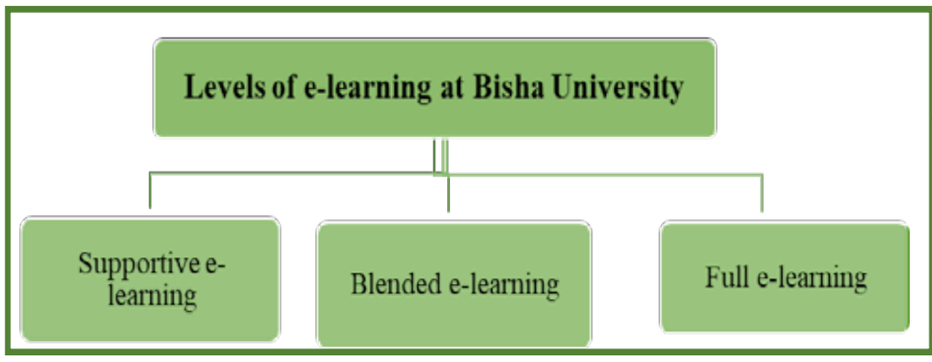


Figure 5-4: levels of e-learning at Bisha University

First: Supportive E-learning:

Teaching takes place in the halls and uses e-learning systems and tools to support the learning process, and one of its characteristics is that the curriculum in the university›s learning management system includes (description, evaluation, course objectives, content, and learning activities).

Second: Blended E-learning

In which a specified percentage of attendance is replaced by electronic activities using e-learning management systems at two levels: 25% and 50%, and is using systems, tools and environmentof e-learning. A25% of the total marks of the course are allocated to electronic activities.

Third: Full E-learning

In which a specified percentage of attendance is replaced by electronic activities using e-learning management systems and they are as follows:

- 40% of the total score allocated to electronic activities.
- What is taught synchronously at least 25% of the electronic course.
- What is taught in electronic activities is not less than 50% of the electronic course.

Skill 7 - 2
Human-computer comparison.

5- 7 E-learning Management Systems

They are application programs which are used in the implementation and evaluation of the learning process. The learning management system supports the staff member to create and present electronic content from various electronic sources and interactive and non-interactive electronic activities, and to monitor student participation. The system also supports student participation for various sources and activities.

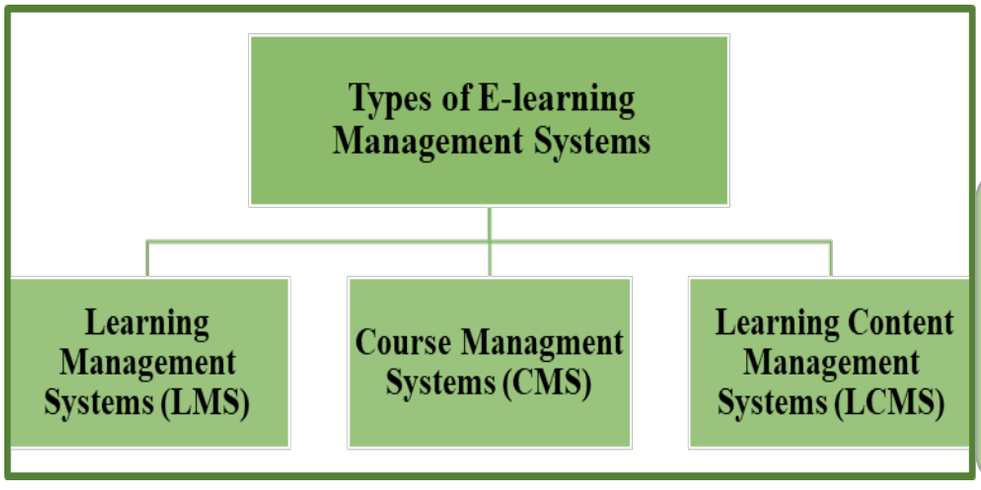


Figure 5-5:
Types of learning management systems

5 -7 -1 Types of Learning Systems

Learning management systems are divided into three types (learning management systems, course management systems and learnining content management systems). Figure 56- illustrates these types.

First: Learning Management Systems

Learning Management System (LMS): It is a system that works to manage, follow-up and evaluate learning and synchronized and asynchronous electronic activities.

Learning Management System Functions:

Learning management systems offer a number of functions, including:

• Electronic content management.	• Authoring educational programs.
• Registration of students, staff and administration.	• Performance Management System.
• Curriculum Management.	• Resource Management.
• Skills and competencies management.	• System template.
• Evaluation.	• Developing collaborative content.
• Reports.	

Second: Courses Management Systems

It means the Course Management System (CMS) and focuses on the courses in terms of composition and development. This system enables the publication of scientific material, the management of study activities related to the course and the management of all existing courses.

Third: Educational Content Management Systems

Learning Content Management System (LCMS) focuses on educational content and gives authors the ability to create, develop and modify educational content more effectively.

The components of the educational content management system include the following:

- Application of authorship.
- Learning object repository.
- Dynamic connection interface.
- Management tools.

5 -7- 2 Types of E-learning Management Systems in Terms of Source

The e-learning management systems are divided according to source into two types:

First: Closed Source or Commercial E-learning Management Systems (Commercial Systems):

These are systems that are owned and developed by a commercial company. The owner company allows the use of the system only with a license, such as the Blackboard system.

Second: Open Source Systems

They are systems that enable educational institutions to use for free and are subject to development and modification by many interested people around the world, but do not have the right to sell them.

Figure 5 -6 shows e-learning management systems in terms of source and examples.

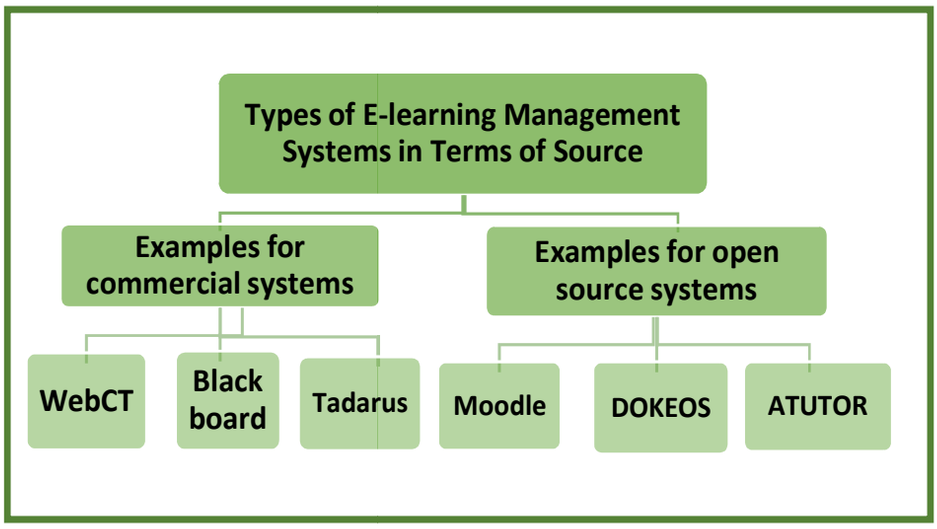


Figure 5-6: Types of e-learning management systems in terms of source

Skill 5 - 8

Knowing about the Blackboard e-learning management system, its features and functions.

5- 8 Blackboard E-learning Management System

It is a commercial learning management system from Blackboard Company. The system contains multiple interactive tools from electronic sources and activities that support the staff member and the student. The system is characterized by ease, as it allows students to quickly access content, different activities, advertisements, etc. It also works to support communication and interaction between the staff member and the student, and between the studentsthemselves, through synchronous and asynchronous communication tools.

The most important features of the Blackboard system:

- The integration of Blackboard with Shams platform.
- It has a forum for academic subjects.
- It has a file upload feature for faculty members and students.
- It has an email feature for students participating in the course and staff members.
- The presence of a wiki service.
- It has a blog service.
- It provides the staff member the advantage of dividing students into groups.
- It has a feature for creating tests.
- It enables the staff member to place a declaration, assignment or presentation of the course.
- It has a special bulletin board to announce new lectures and activities.
- It is compatible with international quality standards in e-learning.

Advantages of the Bb Collaborative Virtual Classroom System:

- The ability to send files to all the participants in the session.
- The possibility of creating groups to discuss a specific topic.
- Availability of the interactive whiteboard.
- Recording the various electronic lectures and activities accompanying the lecture with audio and video
- Students can interact with the moderator.
- Enabling application and program sharing.
- Availability of surveys for students.

Among the most important advantages of the virtual classroom system (Collaborate), the latest version:

- High quality web conferencing
- No need to install Java software, as it is based on (WebRTC) technology that does not need to install Java
- The ability to record virtual sessions in (MP4) format.

Downloading the Blackboard App on Smart Devices:

Blackboard has introduced an application for smart devices, which can be used by students for activities and learning resources. Students can download the application on smart devices running the iOS, Android and Windows operating systems. The following steps illustrate downloading the Blackboard app to smart devices:

1 Access to the store, using your smartphone of the following types: iPhone, iPod touch, Android
2 Search for the black board.
3 Install the Blackboard application on the smartphone.
4 Open the Blackboard app and search for Bisha University.
5 Log in with your Blackboard username and password.

Skill 5 - 9
Knowing about the Shams E-learning Platform.

5 -9 Premium e-learning platforms

Due to technical development, e-learning platforms have become a cornerstone of tomorrow's technology,enabling such platforms to contribute to supporting the learning process and facilitating educational resources as it provides easy access to educational information. In addition, these platforms saves money and time, and provide electronic content in many attractive and stimulating forms such as audio lectures, video lectures (Video), pictures and graphics, audio or music clips, methodological educational contents, books and guides including textbooks, articles ... etc.

The premium platforms are defined by UNESCO as «the teaching, learning and research resources available through any digital or non-digital means that are in the public domain or have been issued under an open license that allows others to make free benefit of them, use them, adapt them and redistribute them without any restrictions or limited restrictions».

There are many platforms globally and in the Arab world. Among the world›s most popular open source educational platforms are Khan Academy and IDEX.

5- 9 -1 The most Popular Arabic Platform

Among the most famous Arab platforms for open education are the following:

- Shams
- Edraak
- Rwaq
- Tahrir academy

We will address the Saudi Open Education Resource Network (Shams) platform in some detail.

5- 9- 2 Learn about the Shams Platform

According to the definition of Shams platform on its website, “Shams is the Saudi network for open learning resources that aims to enrich educational content to support learning and search for a sustainable path for partnership in design, improvement, maintenance, and enhancing the quality of digital educational content and contribute to providing more learning opportunities for speakers of the Arabic language” .

In the main interface there is an introduction to the sections and encyclopedias. The navigation bar in Shams contains many sections, such as: discover(this list contains encyclopedias, suppliers and resources), create, join, and help center.

Shams platform can be browsed through the following address https://shms.sa, as in Figure 5 -7

Figure 5-7:

Shams platform website

5 -9 -3 Shams Platform Objectives

Shams platform aims, according to its website, to achieve the following objectives:

- Contribute to the quality of continuous learning.
- Improving the quality and accessibility of teaching and learning resources.
- Collaborate to develop creative digital content services and learning practices in the educational framework.
- To enhance cooperation in the design, development and quality assurance of open learning resources.

- Identify open learning best practices, products and processes that are outstanding through self-assessment and peer reviews.
- Encouraging researchers and developers to conduct studies and make proposals for improving the open learning resource system.

5-4 9- Open Learning Resources

OER is an acronym for the phrase (Open Educational Resources) which is educational resources that include video or audio lectures, free textbooks, computer programs, available to everyone as a common public domain, or as a public domain. Such resources are usually issued using a specific intellectual property license, which allows distribution and modification of these resources and cooperation with others to reuse them, or even for commercial purposes.