The Jordanian Universities Experience in Integrating Online Learning and its Quality Assurance

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Abstract: *University educational institutions in Jordan, in general, have quickly dealt with emergency situations facing education, such as the Corona pandemic, in which they needed to move from traditional learning to online learning (in its fully and blended forms) during the previous period. This led the public and private educational institutions in Jordan to implement the executive action plan that was prepared by the Ministry of Higher Education and Scientific Research (MoHESR) for integrating online learning into the higher education system and reflect it on their programs in order to keep pace with developments at the local, regional and international levels. This study includes a specification of the components relevant to online learning management system, and aims to determine the percentages of achievement at the level of fully online learning and blended learning for all components of the online learning management system in public and private Jordanian universities and also determine the percentages of achievement for each one of these components at the university level, and the most important actions that should be taken by universities to achieve them. The study also aims to benefit the integration of online learning within the Jordanian higher education system in an effective manner that achieves high levels of educational quality for online learning in its both forms and ensure the desired shift in the performance of Jordanian higher education institutions and the quality of its output, keeping pace with global developments in this field. The study concludes with a set of results that will benefit decision-makers in the Accreditation and Quality Assurance Commission for Higher Education Institutions (AQACHEI), MoHESR, and Jordanian higher education institutions.*

Keywords: *Online Learning, Jordanian Universities, Fully Online Learning, Blended Learning.*

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1. Introduction

Universities have a prominent place within the educational system, and by virtue of this place, they are not only responsible for developing themselves and renewing their potentials, but also for developing and completely renewing the education system. No country can make significant progress in education and achieve the development goals in the third millennium without having a strong educational system that is capable of keeping pace with the occurring changes and exceptional and urgent circumstances. Such a strong educational system is crucial for conducting the educational process according to the highest levels of quality. In addition, as the Corona pandemic has cast a shadow over the country, along with the accompanying changes in the adopted learning and teaching methods as well as the content of education, it is necessary for the educational system to provoke profound thoughts, pursue effective remediation, and fulfill aspirations towards new prospects [3].

Based on the above, university educational institutions in Jordan, in general, have quickly dealt with emergency situations facing education, such as the Corona pandemic, in which they needed to move from traditional learning to online learning (in its fully and blended forms) during the previous period. This led the educational institutions to implement the executive action plan that was prepared by the Ministry of Higher Education and Scientific Research (MoHESR) for integrating online learning (in its fully and blended forms) into the higher education system from 2021 until 2023 [9]. They also needed to implement the executive action plan to reflect it on their programs in order to keep

pace with developments at the local, regional and international levels. Consequently, it has become an ongoing and pressing necessity for educational institutions to develop their educational programs and legal acts due to the fact that circumstances are changing, and all of that was a strong motive to conduct this study.

The results shown in sub-section 7.3 in this paper have been published recently in 22nd International Arab Conference on Information Technology (ACIT) [2], and this paper is an extension of this work to show the percentages of achievement for all components of the online learning management system in public and private Jordanian universities.

The remainder of this paper is organized as follows: Section 2 presents the problem and questions of the study. Section 3 presents the objectives of the study. The importance of the study is presented in Section 4. Section 5 presents the methodology used to conduct this study. The terminologies used in this study are presented in Section 6. Section 7 includes the university-based online learning management system and its components as well as the percentages of achievement for these components in public and private universities and also achievement percentages for each one of these components at the university level. The results of this study are discussed in section 8.

2. Problem and Questions of the Study

The problem of the study is determined by the following main question:

"To what extent is online learning, in its fully and blended forms, activated and applied in Jordanian universities?"

The following questions are subdivided from the main question:

1. What is meant by fully online learning?
2. What are the forms of fully online learning?
3. What is meant by blended learning?
4. What are the forms of blended learning?
5. What are the achievement percentages in relation to fully online learning or blended learning, are made in Jordanian universities?.

3. Objectives of the Study

This study aims to achieve the following objectives:

1. Defining online learning in terms of concept, importance, and objectives.
2. Identifying the components related to online learning and checking their availability.
3. Identifying the percentages of achievement made in relation to the procedures taken by the university.

4. Importance of the Study

This study is considered important based on:

1. The ability of university educational institutions to use online learning in its fully and blended forms in an optimal way, in order to achieve the highest educational quality.
2. It is hoped that this study will benefit the following parties:
   - Decision-makers in the Accreditation and Quality Assurance Commission for Higher Education Institutions (AQACHEI) and MoHESR.
   - Universities, private university colleges, and intermediate university colleges.

5. Methodology

The descriptive-analytical method [11] was used to conduct this study, as it is appropriate for its nature in order to reach the desired results.

6. Terminologies Used in The Study

The purpose of this section is to help in understanding the basic terminologies on online learning.

6.1. Online Learning

It is an interactive education system that is provided to the learner using information and communication technology and is based on an integrated digital electronic environment that shares courses via online networks. It also provides guidance and counseling skills, organizes exams, and manages and evaluates resources and processes [4, 5, 8, 12].

The importance of online learning lies in solving the problem of knowledge explosion, the increasing demand for education, and expanding opportunities for admission to education. In addition, online learning is important to empower, train, and educate employees without them leaving their jobs as well as to contribute to breaking psychological barriers between the teacher and the learner. It is also important for satisfying the needs and characteristics of the learner while raising investment returns by reducing the cost of education [8, 12]. Online learning has two forms, namely: fully online learning and blended learning.

6.1.1. Fully Online Learning

Fully online learning takes place distantly when the student and teacher are in two different places and/or work and study at two different times. This form of online learning takes place distantly via the virtual learning platforms approved by the university. It also consists of two components: synchronous online learning (interactive and online) and asynchronous online learning (non-interactive and online) [5].

6.1.1.1. Synchronous Online Learning (Interactive Online Learning)

It is also called interactive learning, in which the teacher communicates with the students, and they communicate with each other at the same time. In this form, the teacher interacts with the students directly, and all students can directly interact with each other and with the teacher at the same time. Students can also join classes from a distant place as all they need is to have an Internet connection to join the website through which the lesson is delivered. Communication takes place at the same moment by written communications, voice communications, or audio-visual communications [4].

6.1.1.2. Asynchronous Online Learning (Non-interactive Online Learning)

It is the form of learning in which students do not rely on communicating at the same time as it takes place outside the lecture times. In this form of learning, materials are available on the learning platform for all students so they can access them whenever and wherever they want. Thus, students choose the times and places that suit their circumstances. Students can also re-study the material and access it online whenever they need. One of the disadvantages of this form of learning is that students cannot receive immediate feedback from the instructor [4].

6.2. Blended Online Learning

It is the form of learning that combines both face-to-face learning that takes place in the classrooms or laboratories in the university campus and online learning in one course. Blended learning has two forms, mainly: face-to-face learning that takes place on campus (synchronous), which is similar to synchronous online learning, and asynchronous learning, which is similar to asynchronous online learning. Blended learning is characterized by combining the advantages of both traditional and online learning; however, in this case, teachers' role is to provide guidance and manage the educational situation [1, 6, 10].

7. University-based Online Learning Management System

The Online Learning Management System can be defined as an integrated computer system for distance education services, as this system aims to facilitate the interaction between the student and the instructor. This management system is characterized by ensuring the quality and efficiency of the educational design, using various methods to present information, applying modern technology, and using it as an educational method. It is also characterized by encouraging the interaction between the two components of the educational system, developing self-learning skills for students, easing the process of monitoring, and providing good management for the educational process [7, 9]. The Online Learning Management System includes the following components [9]:

- Developing a synchronous communication system.
- Developing an integrated Online Learning Management System.
- Providing computers and technological tools for faculty members, staff, and students.
- Having an appropriate technological capacity.
- Developing specialized instructions and legislation.
- Providing the online learning center with competent staff members.
- Providing training for students.
- Providing training for the faculty, administrative, and technical staff.
- Designing synchronous lectures.
- Reviewing and amending the study plans of the academic programs and courses.
- Introducing modern learning methods and strategies.
- Restructuring the evaluation system.
- Introducing both forms of learning which are blended and fully online learning.
- Introducing to the required percentages for the hybrid program, which is a program that combines fully online learning, blended learning, and face-to-face learning.
- Defining the analogy between the forms, models and components of fully online learning, and between the forms, models and components of blended learning.

Based on these components whose results were provided by the Jordanian universities, it becomes obvious what the universities have done in terms of procedures and percentages of achievement in each of them. Section 7.1 shows the percentages of achievement for the components of the online learning management system in public universities and section 7.2 shows these percentages in private universities. Section 7.3 shows the achievement percentages for each one of the components of the online learning management system mentioned above at the university level.

7.1. Public Universities

This section presents the results obtained from nine public universities, which are, respectively, the University of Jordan, Yarmouk University, Mutah University, Jordan University of Science and Technology, Al al-Bayt University, the Hashemite University, Balqa Applied University, Tafila Technical University, and German Jordanian University.

In Figures 1-9, the *x-axis* values (0, 1, 2, 3, and 4) represent, respectively, the following: the action has not been achieved yet, the action has been achieved by less than 25%, the action has been achieved from 25% to 50%, the action has been achieved from 50% to 75%, and the action has been achieved from 75% to 100%.

Figure 1 shows the percentages of achievement for the components of the online learning management system at the University of Jordan. It is clear from this Figure that the achievement percentage rate has reached (3.33 out of 4), and that most of the components have been achieved by at least (75%), except for the two components mentioned below that were achieved by at most (50%):

1. Providing the online learning center with competent staff members.
2. Introducing modern learning methods and strategies.

Figure 2 shows the percentages of achievement for the components of the online learning management system at Yarmouk University. Based on this Figure, it is clear that achievement percentage rate has reached (3.60 out of 4), and that most of the components have been achieved by at least (75%).

Figure 3 shows the percentages of achievement for the components of the online learning management system at Mutah University. It is clear from this Figure that the achievement percentage rate has reached (2.47 out of 4), and that most of the components have been achieved by at least (50%).

Figure 4 shows the percentages of achievement for the components of the online learning management system at the Jordan University of Science and Technology. It is obvious from this Figure that the achievement percentage rate has reached (2.53 out of 4), and that most of the components have been achieved by at least (50%), except for the component of providing training for faculty members, administrative and technical staff, as it was achieved at a percentage of less than (25%). The component of restructuring the evaluation system has not been achieved.

Figure 5 shows the percentages of achievement for the components of the online learning management system at Al Al-Bayt University. It is clear from this Figure that the achievement percentage rate has reached (3.60 out of 4), and that most of the components have been achieved by at least (75%), while the component of introducing modern learning methods and strategies has not been achieved.

Figure 6 shows the percentages of achievement for the components of the online learning management system at the Hashemite University. It is clear from this Figure that the achievement percentage rate has reached (3.53 out of 4), and that most of the components have been achieved by at least (75%).

Figure 7 shows the percentages of achievement for the components of the online learning management system at Balqa' Applied University. As the Figure clearly indicates, the achievement percentage rate has reached (3.40 out of 4), and that most of the components have been achieved by at least (75%), except for the components mentioned below that were achieved by less than (25%):

1. Introducing modern learning methods and strategies.
2. Introducing to the required percentages of achievement for the hybrid program.

Figure 8 shows the percentages of achievement for the components of the online learning management system at Tafileh Technical University. It is clear from this Figure that the achievement percentage rate has reached (2.40 out of 4), and that most of the components have been achieved by at least (50%), except for the components mentioned below as they were achieved by less than (25%):

1. Defining the analogy between the forms, models and components of fully online learning, and between the forms, models and components of blended learning.
2. Reviewing and amending the study plans of the academic programs and courses.

However, the components of designing synchronous lectures and introducing modern teaching methods and strategies have not been achieved.

Figure 9. shows the percentages of achievement for the components of the online learning management system at the German Jordanian University. It is clear from this Figure that the achievement percentage rate has reached (2.67 out of 4), and that most of the components have been achieved by at least (50%), except for the components mentioned below as they were achieved by less than (25%):

1. Developing specialized instructions and legislation.
2. Providing training for students.

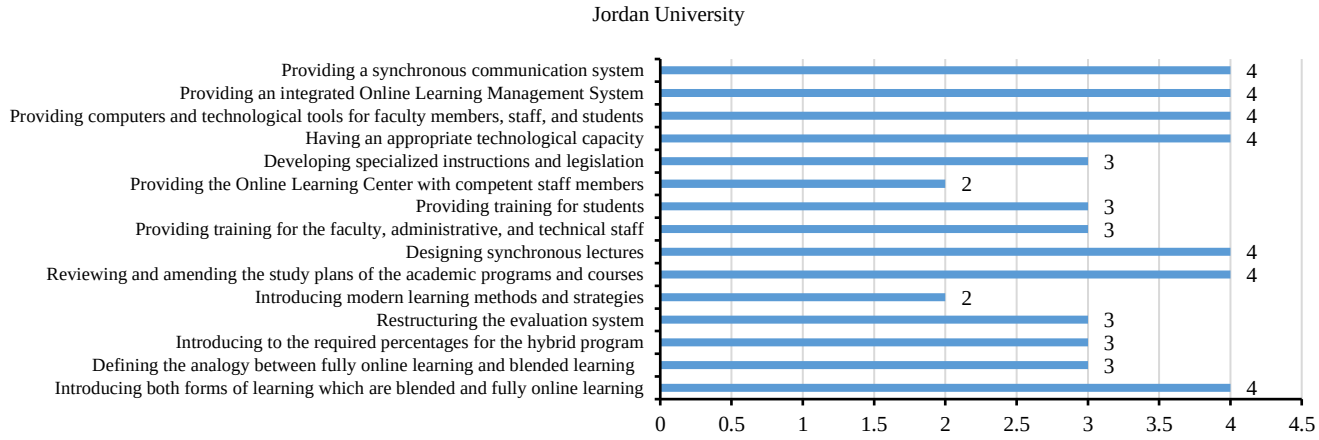

Figure 1. Percentages of achievement for the components of the online learning management system at the university of jordan.

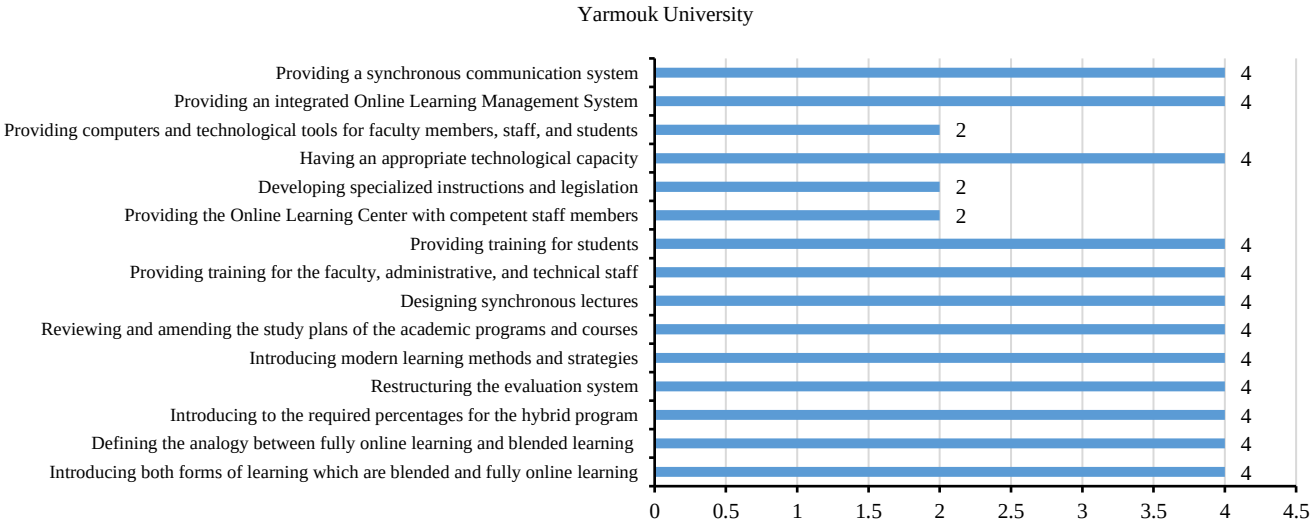

Figure 2. Percentages of achievement for the components of the online learning management system at yarmouk university.

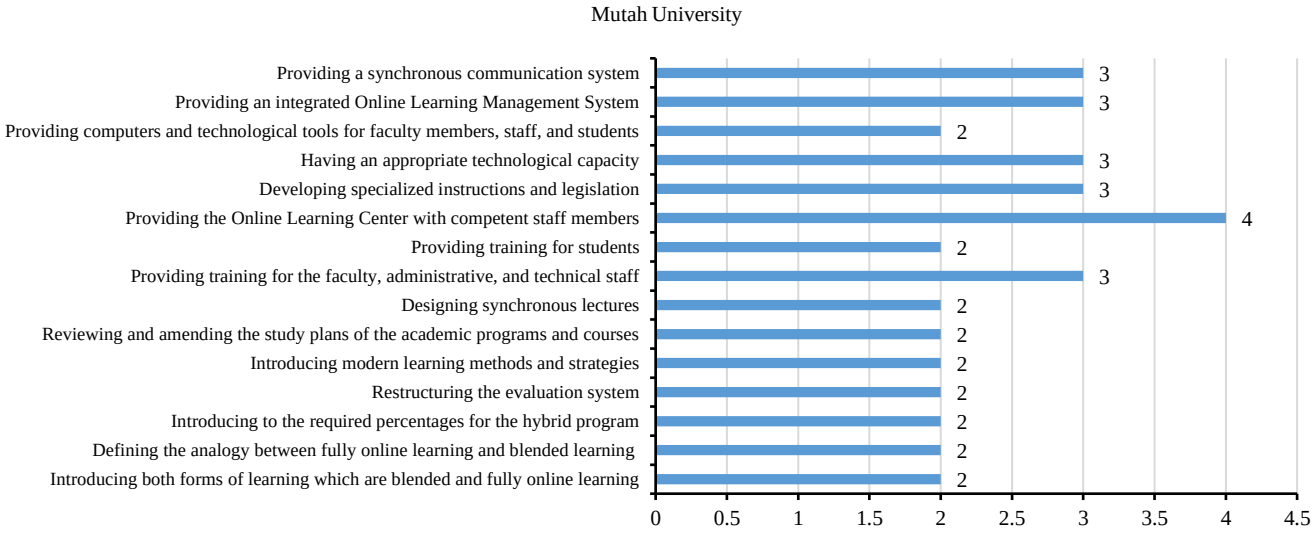

Figure3. Percentages of achievement for the components of the online learning management system at mutah university.

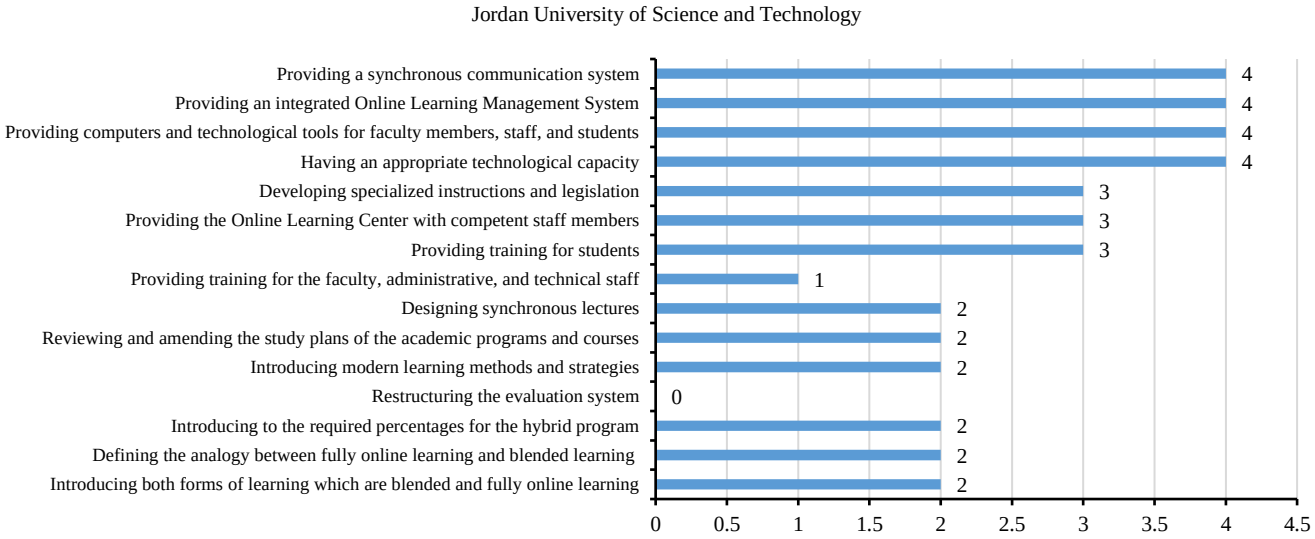

Figure 4. Percentages of achievement for the components of the online learning management system at the jordan university of science and technology.

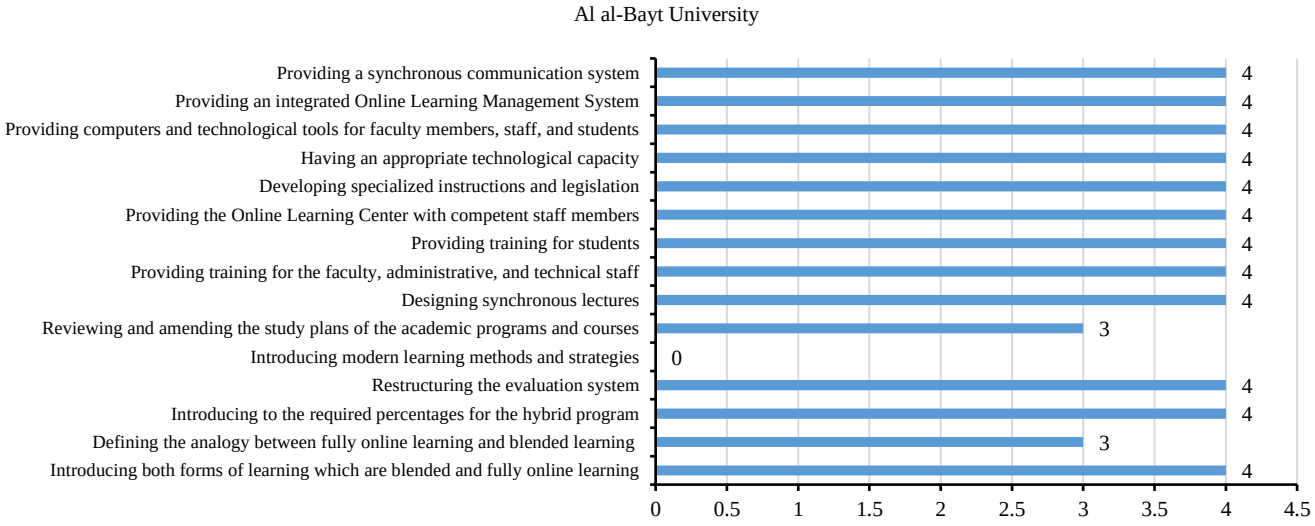

Figure 5. Percentages of achievement for the components of the online learning management system at al al-bayt university.

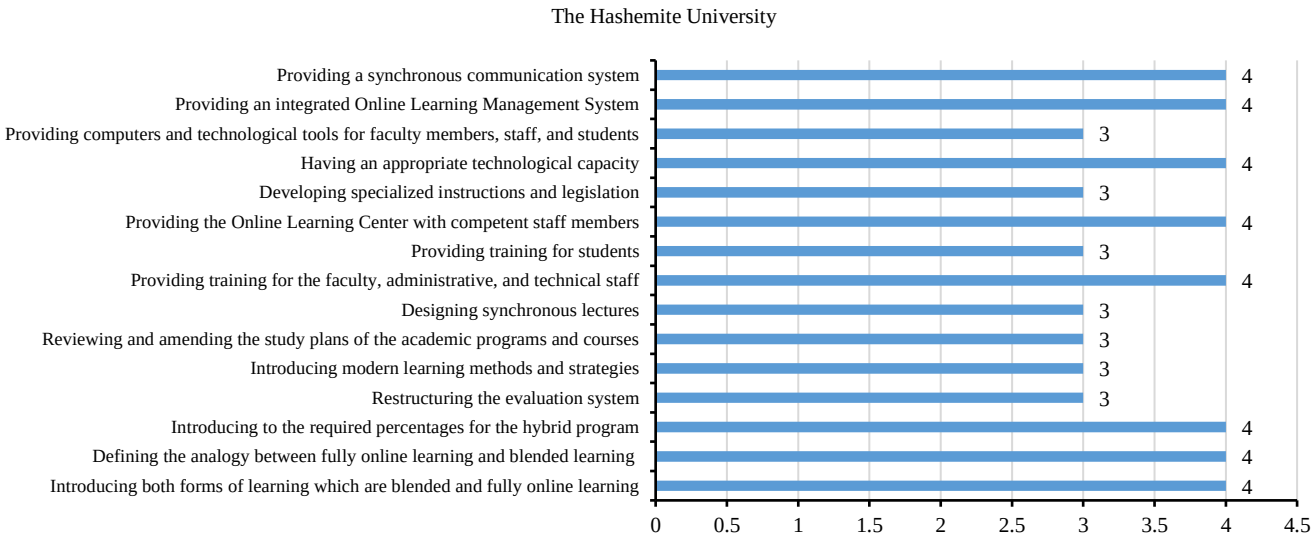

Figure 6. Percentages of achievement for the components of the online learning management system at the hashemite university.

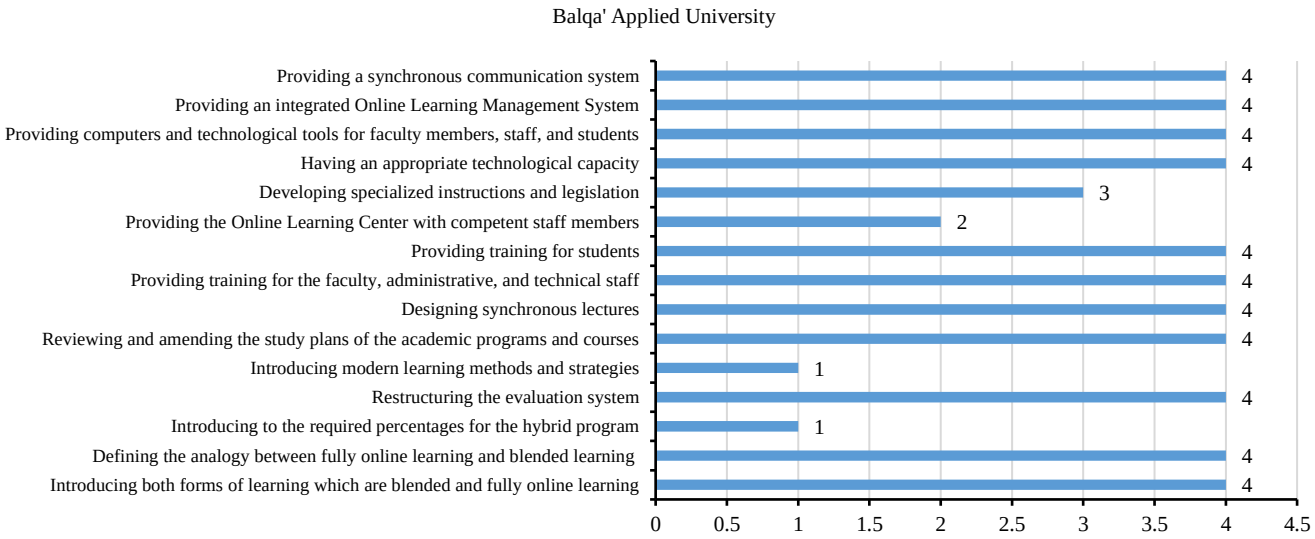

Figure 7. Percentages of achievement for the components of the online learning management system at balqa' applied university.

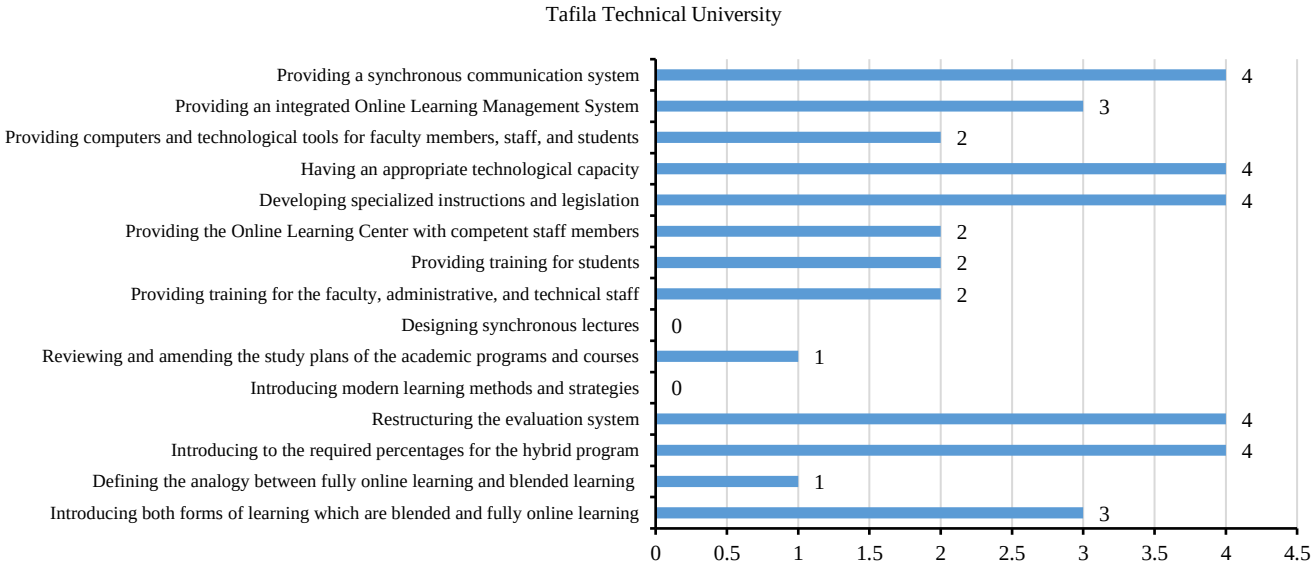

Figure 8. Percentages of achievement for the components of the online learning management system at tafila technical university.

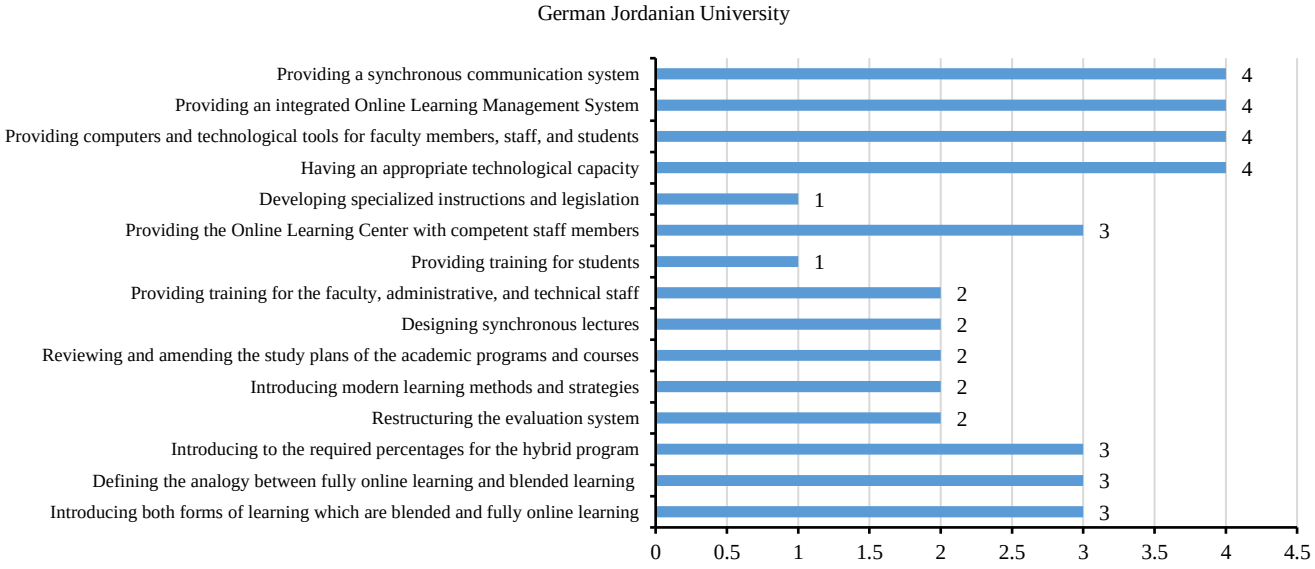

Figure 9. Percentages of achievement for the components of the online learning management system at the german jordanian university.

7.2. Private Universities

This section presents the results obtained from thirteen private universities, which are, respectively, Philadelphia University, Applied Science Private University, University of Petra, Isra University, Princess Sumaya University for Technology, Jerash University, Irbid National University, Zarqa University, Amman Arab University, Middle East University, Jadara University, Ajloun National University, and Al-Hussein Technical University.

In Figures 10-23, the *x-axis* values (0, 1, 2, 3, and 4) represent, respectively, the following: the action has not been achieved yet, the action has been achieved by less than 25%, the action has been achieved from 25% to 50%, the action has been achieved from 50% to 75%, and the action has been achieved from 75% to 100%.

Figure 10 shows the percentages of achievement for the components of the online learning management system at Philadelphia University. It is clear from this Figure that the achievement percentage rate has reached (2.93 out of 4), and that most of the components have been achieved by at least (50%), except for the components mentioned below that were achieved by less than (25%):

1. Providing training for the faculty, administrative, and technical staff.
2. Providing training for students.

Figure 11 shows the percentages of achievement for the components of the online learning management system at the Applied Science Private University. It is clear from this Figure that the achievement percentage rate has reached (3.13 out of 4), and that most of the components have been achieved by at least (75%), except for the component of developing specialized instructions and legislation, which was achieved by less than (25%).

Figure 12 shows the percentages of achievement for the components of the online learning management system at the University of Petra. It is clear from this Figure that the achievement percentage rate has reached (2.87 out of 4), and that most of the components have been achieved by at least (50%), except for the component of designing synchronous lectures, as it was achieved by less than (25%).

Figure 13 shows the percentages of achievement for the components of the online learning management system at Isra University. As shown in this figure, it is clear that the achievement percentage rate has reached (2.93 out of 4), and that most of the components have been achieved by at least (50%), expect for the component of providing the online learning center with competent staff members as it was achieved by less than (25%).

Figure 14 shows the percentages of achievement for the components of the online learning management system at Princess Sumaya University for Technology. According to this Figure, it is clear that the achievement percentage rate has reached (2.93 out of 4), and most of the components have been achieved by at least (50%).

Figure 15 shows the percentages of achievement for the components of the online learning management system at Jarash University. It is clear from this Figure that the achievement percentage rate has reached (2.80 out of 4), and that most of the components have been achieved by at least (50%), except for the components mentioned below that were achieved by less than (25%):

1. Providing the online learning center with competent staff members.
2. Providing training for students.

Figure 16 shows the percentages of achievement for the components of the online learning management system at Irbid National University. It is clear from this Figure that the achievement percentage rate has reached (3.13 out of 4). In addition, it is obvious that most of the components have been achieved by at least (75%), with the exception of the component of introducing modern learning methods and strategies, which has been achieved by less than (25%). The two components of restructuring the evaluation system and introducing to the required percentages for the hybrid program have not been achieved.

Figure 17 shows the percentages of achievement for the components of the online learning management system at Zarqa University. It is clear from this Figure that the achievement percentage rate has reached (3.47 out of 4), and that most of the components have been achieved by at least (75%), except for the component of developing specialized instructions and legislation, as it was achieved by less than (25%).

Figure 18 shows the percentages of achievement for the components of the online learning management system at Amman Arab University. It is clear from this figure that the achievement percentage rate has reached (3.73 out of 4), and that most of the components have been achieved by at least (75%).

Figure 19 shows the percentages of achievement for the components of the online learning management system at Middle East University. It is clear from this figure that the achievement percentage rate has reached (3.47 out of 4), and that most of the components have been achieved by at least (75%).

Figure 20 shows the percentages of achievement for the components of the online learning management system at Jadara University. It is clear from this Figure that the achievement percentage rate has reached (1.67 out of 4), and that most of the components have been achieved by at least (25%), while the component of providing training for students was not achieved.

Figure 21 shows the percentages of achievement for the components of the online learning management system at Ajloun National University. It is clear from this figure that the achievement percentage rate has reached (4 out of 4), and that all the components have been achieved by (100%).

Figure 22 shows the percentages of achievement for the components of the online learning management system at Al-Hussein Technical University. It is clear from this Figure that the achievement percentage rate has reached (2.53 out of 4), and that most of the components have been achieved by at least (50%), except for the components mentioned below as they were achieved by less than (25%):

1. Introducing modern learning methods and strategies.
2. Reviewing and amending study plans of the academic programs and courses.

Conversely, the components of designing synchronous lectures and providing training for students were not achieved.

To sum up, Figure 23 shows the achievement percentages rate for all components of the online learning management system for all Universities (public and private). The average percentages of achievement amounted to (3.02), and the percentages ranged from (2.05) to (3.86). The lowest percentage of achievement is for the component of introducing modern learning methods and strategies (2.05), and the highest percentage of achievement is for the component of providing a synchronous communication system (3.86).

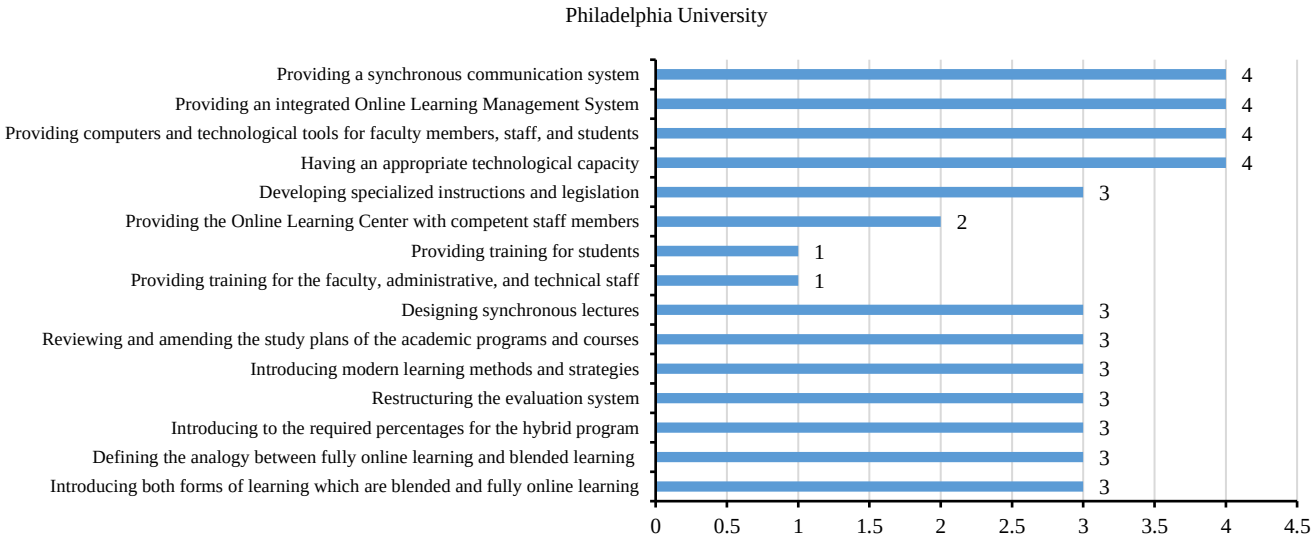

Figure 10. Percentages of achievement for the components of the online learning management system at philadelphia university.

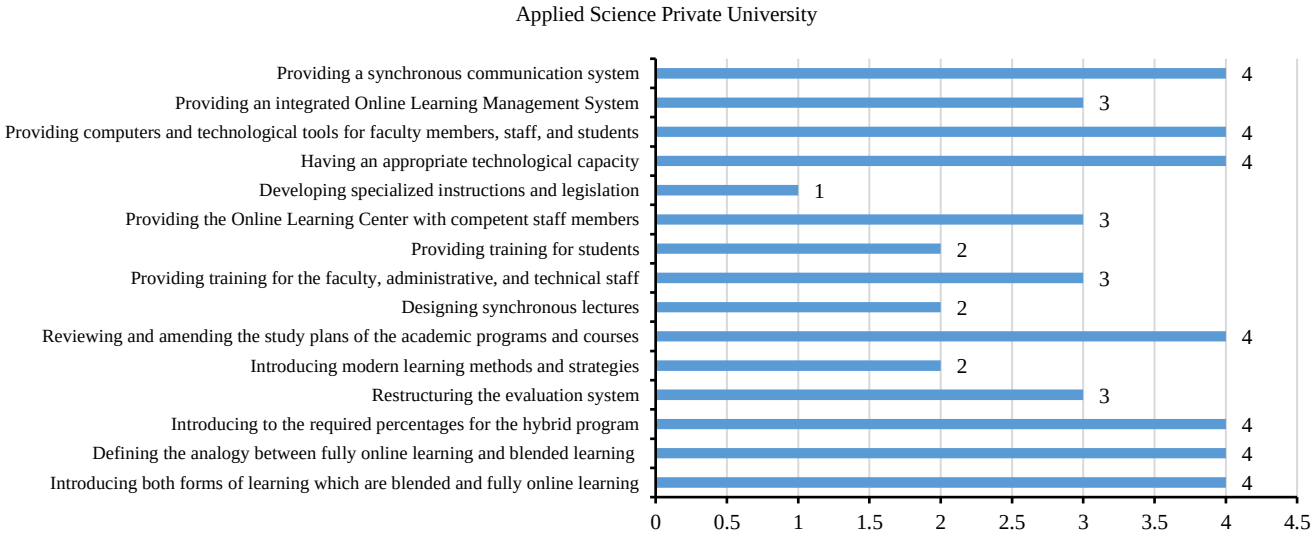

Figure 11. Percentages of achievement for the components of the online learning management system at the applied science private university.

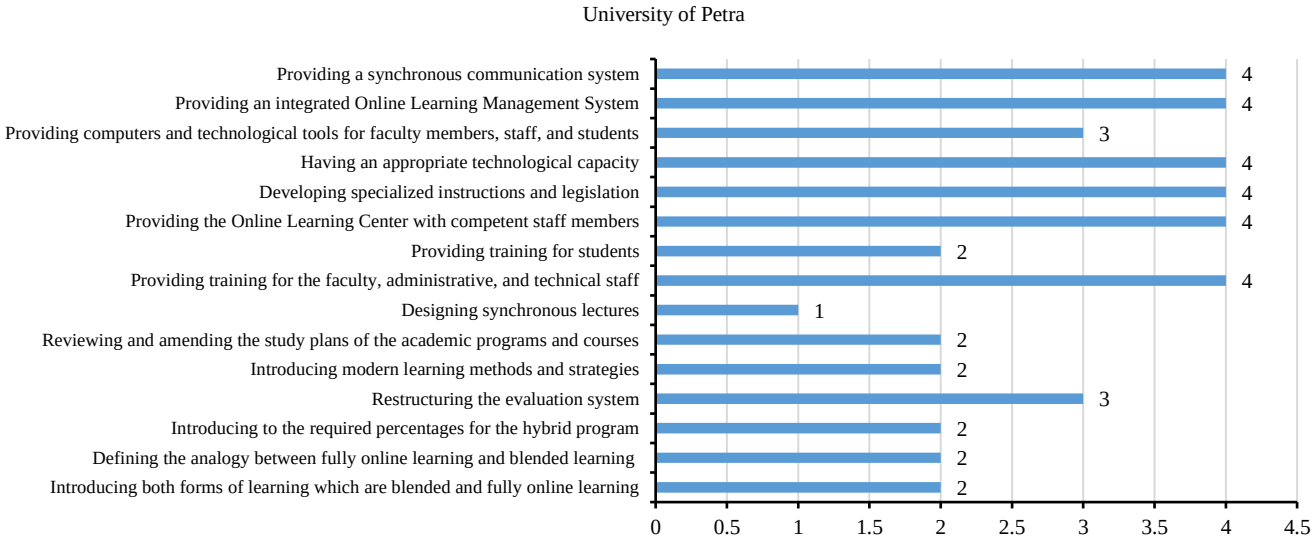

Figure 12. Percentages of achievement for the components of the online learning management system at the university of petra.

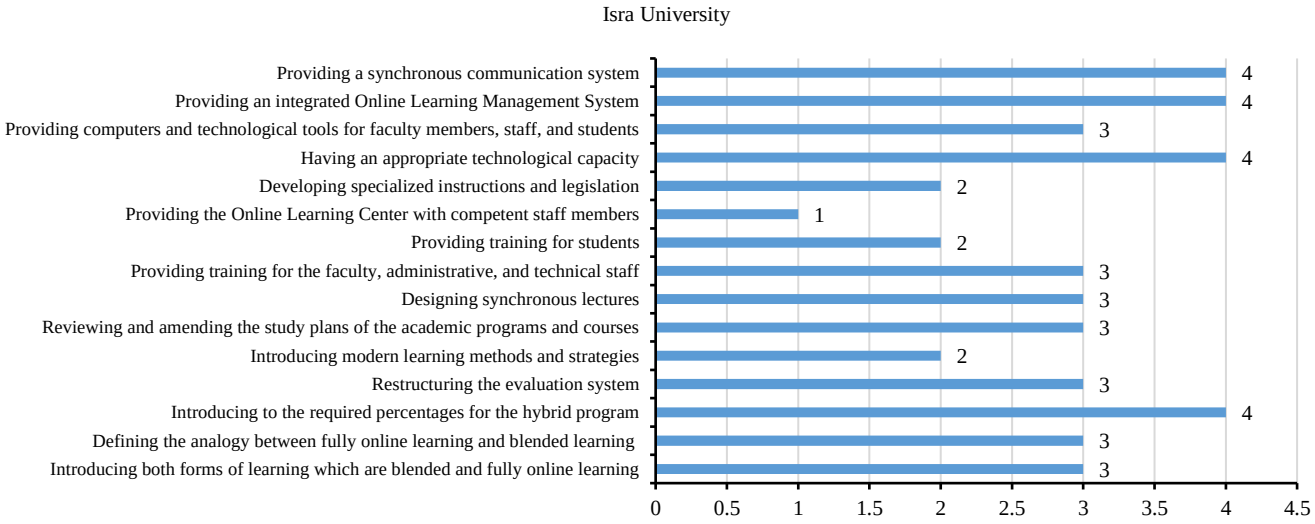

Figure 13. Percentages of achievement for the components of the online learning management system at isra university.

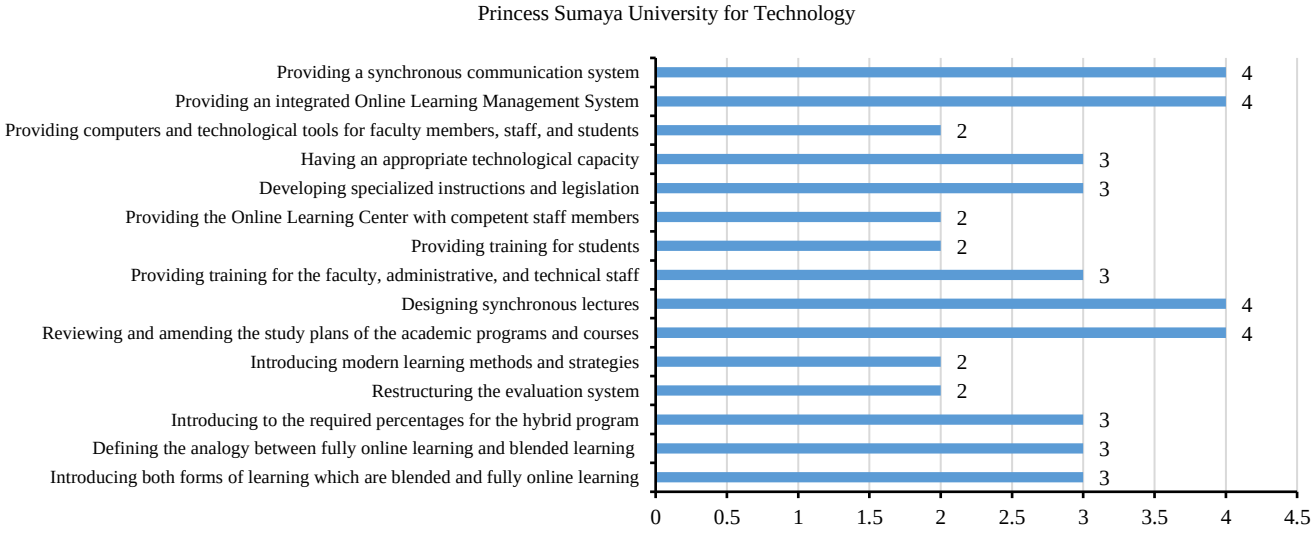

Figure 14. Percentages of achievement for the components of the online learning management system at princess sumaya university for technology.

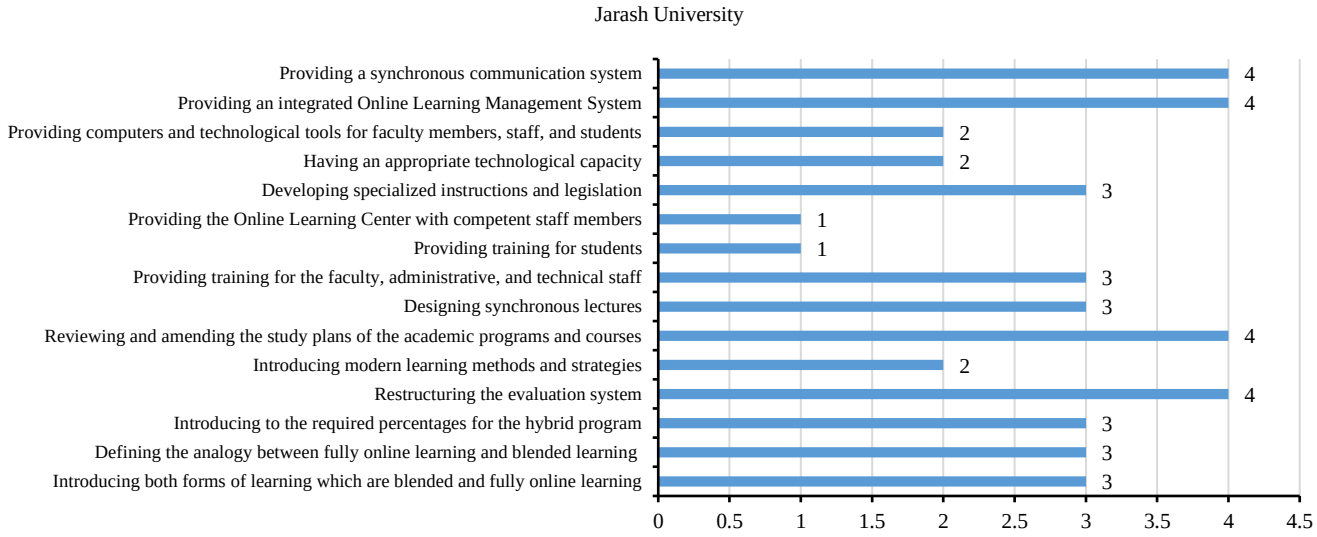

Figure 15. Percentages of achievement for the components of the online learning management system at jarash university.

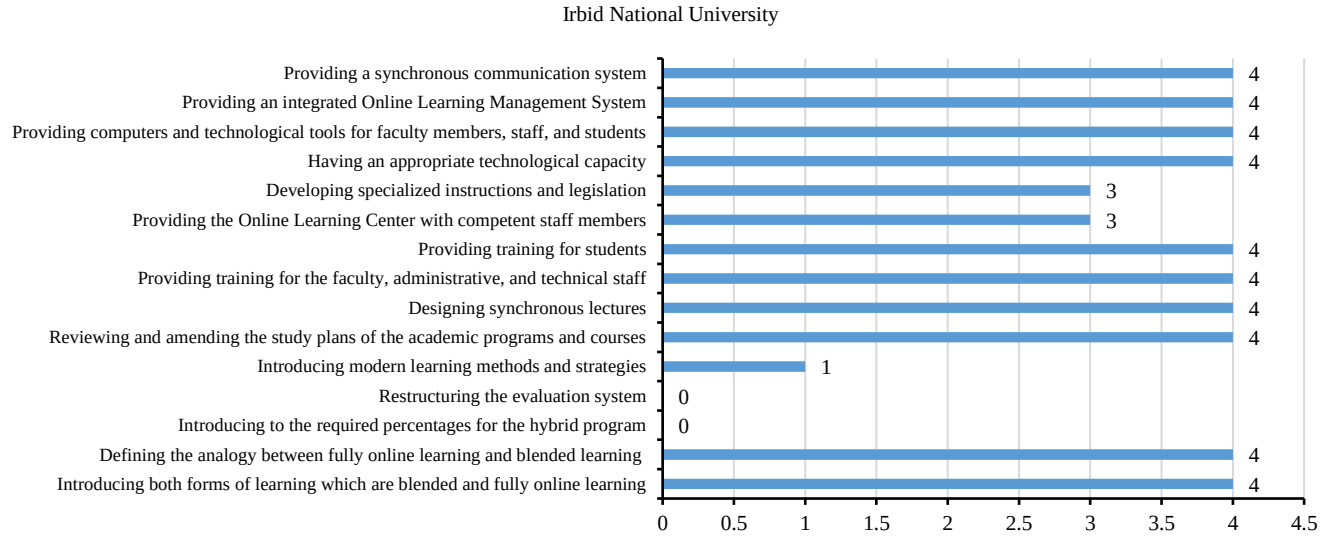

Figure 16. Percentages of achievement for the components of the online learning management system at irbid national university.

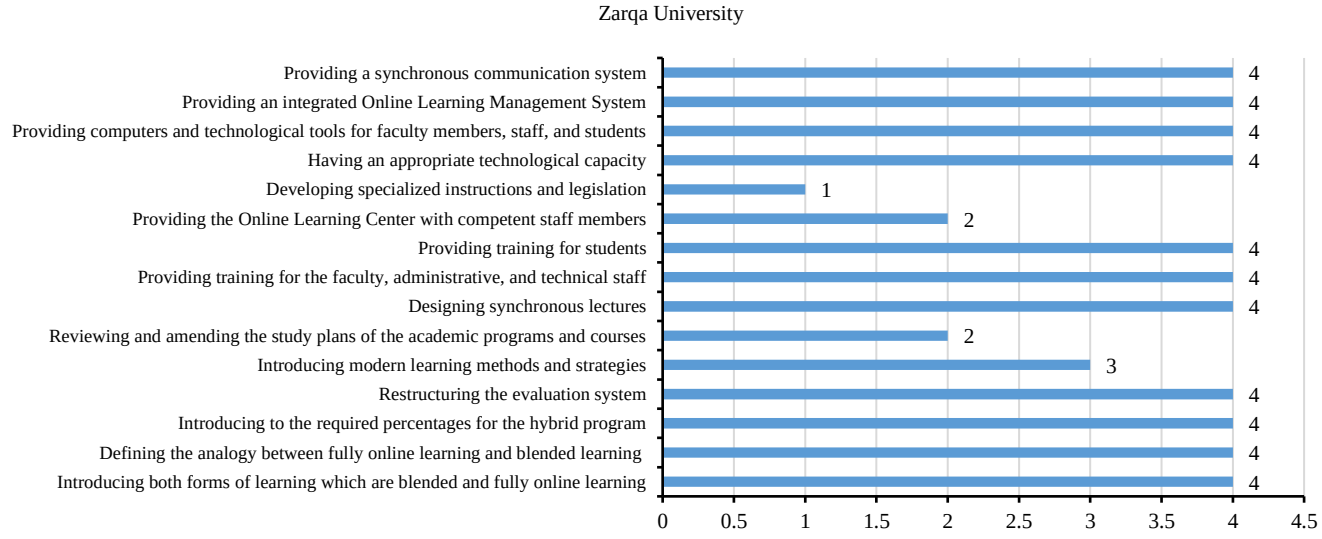

Figure 17. Percentages of achievement for the components of the online learning management system at zarqa university.

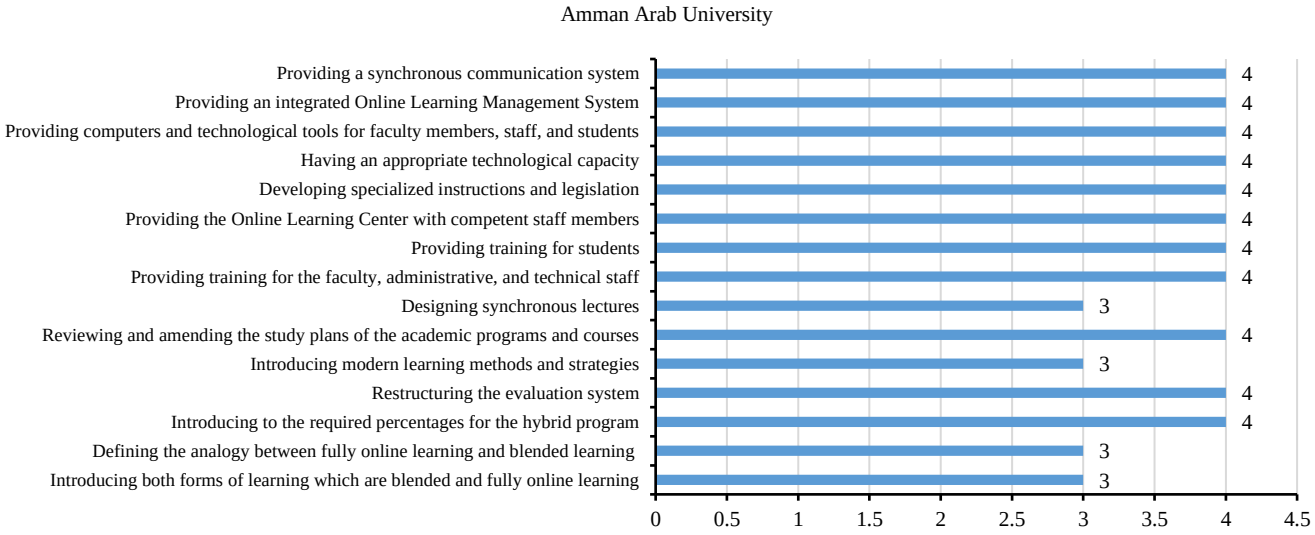

Figure 18. Percentages of achievement for the components of the online learning management system at amman arab university.

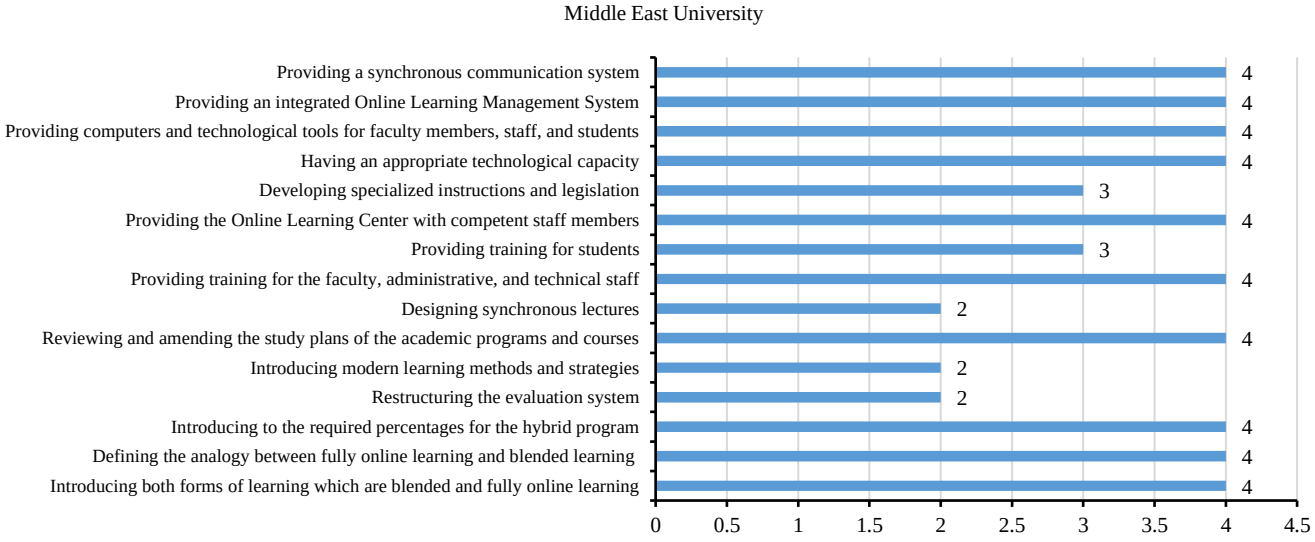

Figure 19. Percentages of achievement for the components of the online learning management system at middle east university.

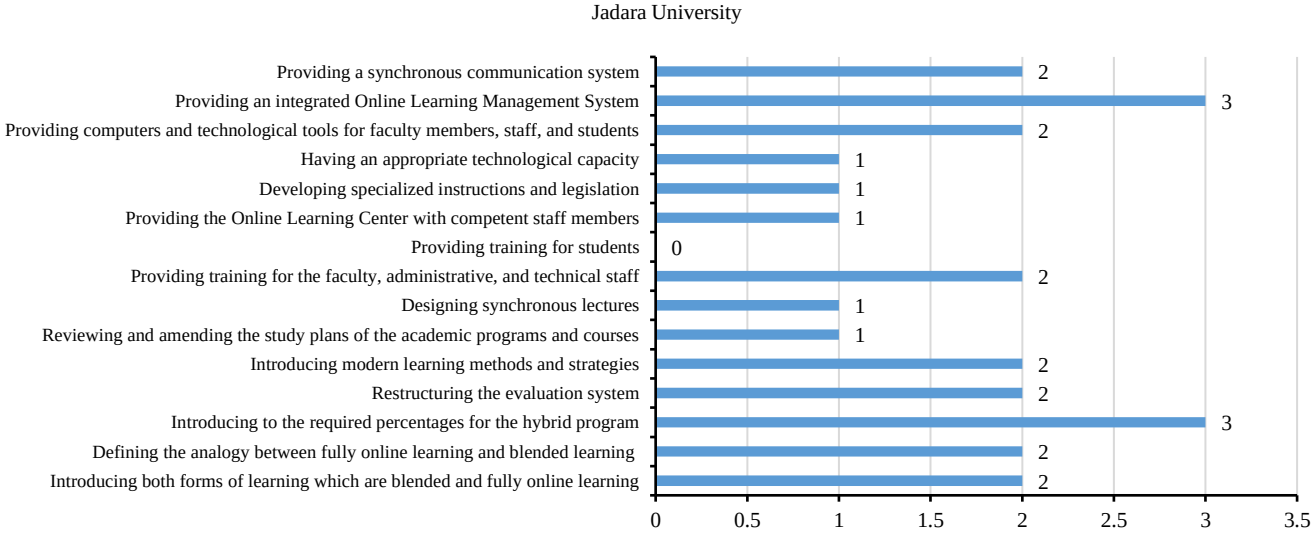

Figure 20. Percentages of achievement for the components of the online learning management system at jadara university.

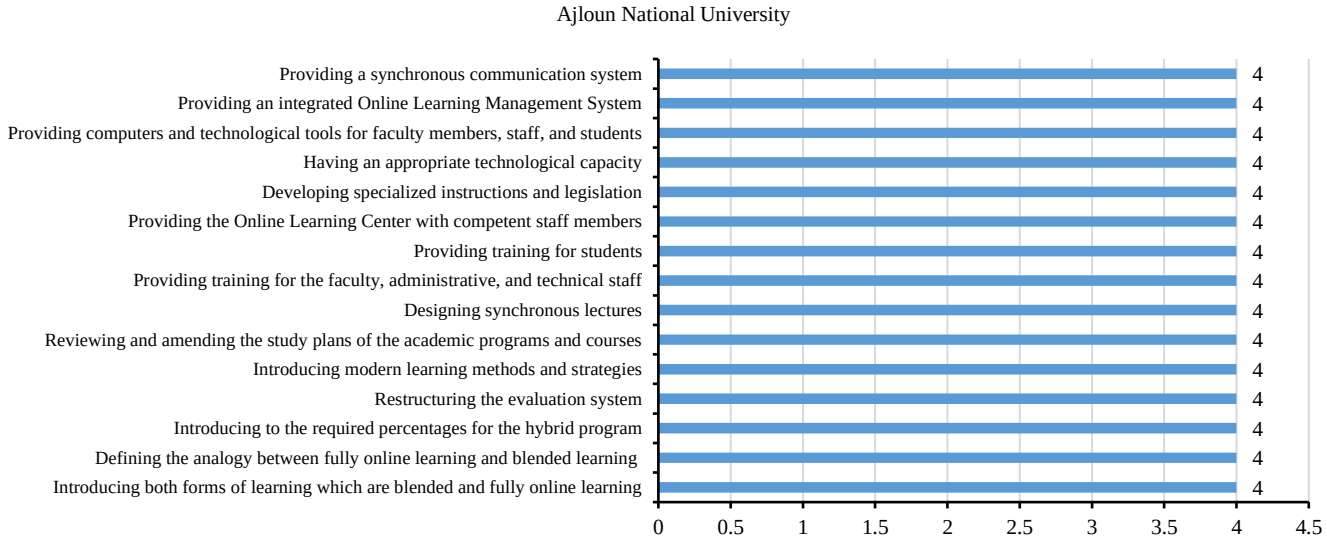

Figure 21. Percentages of achievement of the components of the online learning management system at ajloun national university.

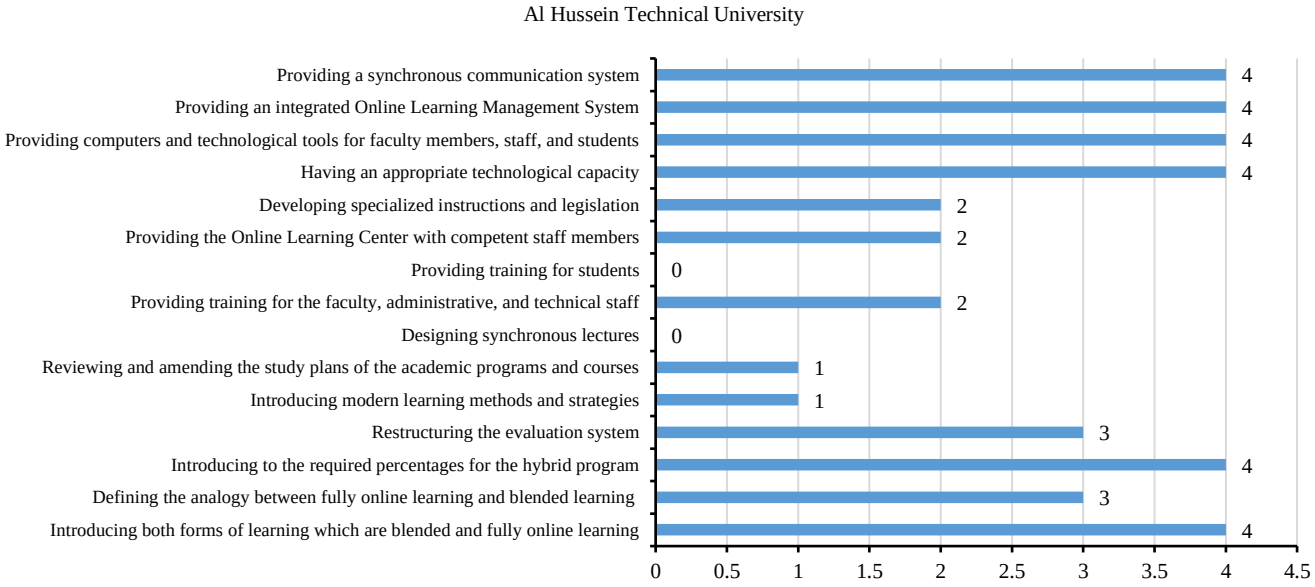

Figure 22. Percentages of achievement for the components of the online learning management system at al-hussein technical university.

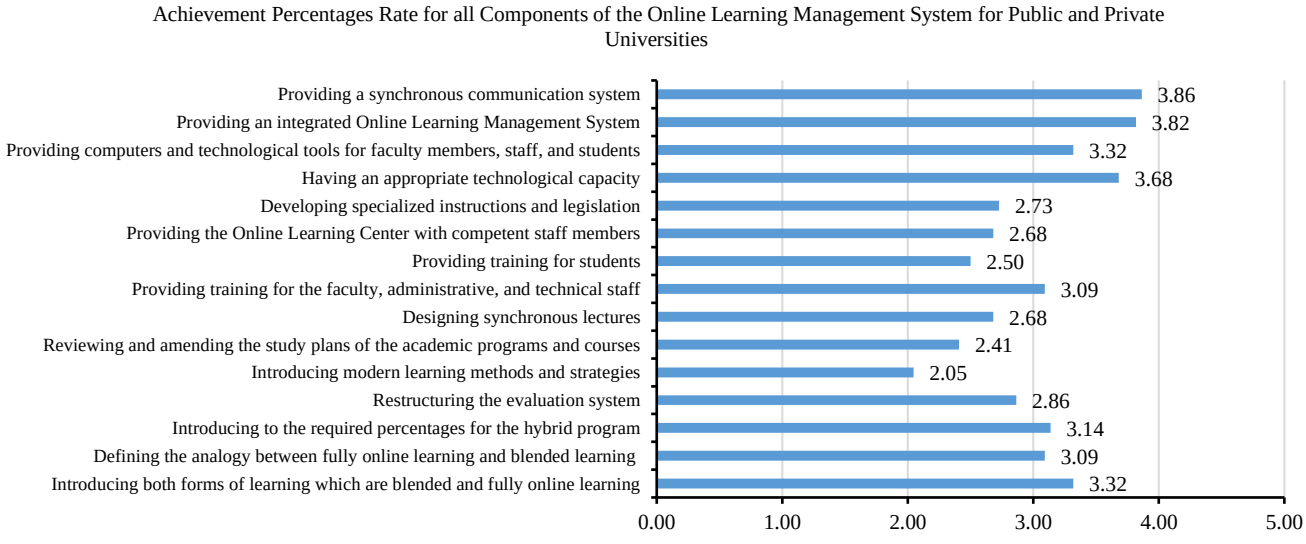

Figure 23. Achievement percentages rate for all components of the online learning management system for all public and private universities.

7.3. Achievement Percentages for the Components of the Online Learning Management System at the University Level

In this section, the percentages of achievement of the various online learning management system components are presented at the university level. Figure 24 shows the average percentage of achievement from the total number of instructors for the component of introducing both forms of learning which are blended and fully online learning. This percentage of achievement amounted to (3.32 out of 4), and the percentages of achievement in universities ranged from (2) to (4).

Figure 25 shows the average percentage of achievement from the total number of instructors for the component of introducing to the required percentages for the hybrid program, which amounted to (3.14 out of 4), and the percentages of achievement in universities ranged from (0) to (4).

Figure 26 shows the average percentage of achievement from the total number of instructors for the component of defining the analogy between the forms, models and components of fully online learning, and between the forms, models and components of blended learning. This percentage of achievement amounted to (3.09 out of 4), and the percentages of achievement in universities ranged from (1) to (4).

Figure 27 shows the average percentage of achievement from the total number of instructors for the component of restructuring the evaluation system, which amounted to (2.86 out of 4), and the percentages of achievement in universities ranged from (0) to (4).

Figure 28 shows the average percentage of achievement from the total number of instructors for the component of introducing modern learning methods and strategies, which reached (2.05 out of 4), and the percentages of achievement in universities ranged from (0) to (4).

Figure 29 shows the average percentage of achievement from the total number of programs for the component of reviewing and amending the study plans of the academic programs and courses, which amounted to (2.95 out of 4), and the percentages of achievement in universities ranged from (1) to (4).

Figure 30 shows the average percentage of achievement of the evidence that was prepared and the decisions that were taken for the component of designing synchronous lectures, which amounted to (2.68 out of 4), and the percentages of achievement in universities ranged from (0) to (4).

Figure 31 shows the average percentage of achievement for the component of providing training for faculty members, administrative, and technical staff, which amounted to (3.09 out of 4), and the percentages of achievement in universities ranged from (1) to (4).

Figure 32 shows the average percentage of achievement for the component of providing training for students, which amounted to (2.50 out of 4), and the percentages of achievement in universities ranged from (0) to (4).

Figure 33 shows the average percentage of achievement for the component of providing the online learning center with competent staff members, which amounted to (2.68 out of 4), and the percentages of achievement in universities ranged from (1) to (4).

Figure 34 shows the average percentage of achievement for the component of developing specialized instructions and legislation, which amounted to (2.73 out of 4), and the percentages of achievement in universities ranged from (1) to (4).

Figure 35 shows the average percentage of achievement for the component of having the appropriate technological capacity, which amounted to (3.68 out of 4), and the percentages of achievement in universities ranged from (1) to (4).

Figure 36 shows the average percentage of achievement for the component of providing computers and technological tools for faculty members, staff, and students, which amounted to (3.32 out of 4), and the percentages of achievement in universities ranged from (2) to (4).

Figure 37 shows the average percentage of achievement for the component of providing an integrated online learning management system, which amounted to (3.82 out of 4), and the percentages of achievement in universities ranged from (3) to (4).

Figure 38 shows the average percentage of achievement for the component of providing a synchronous communication system, which amounted to (3.86 out of 4), and the percentages of achievement in universities ranged from (2) to (4).

To sum up, Figure 39 shows the achievement percentages rate for all components of the online learning management system at the university level. The average of achievement percentages rate for all components of the online learning management system amounted to (3.05 out of 4), and the percentages ranged from (1.67) to (4). The lowest percentage of achievement was at Jadara University (1.67), and the highest percentage of achievement was at Ajloun National University (4.0).

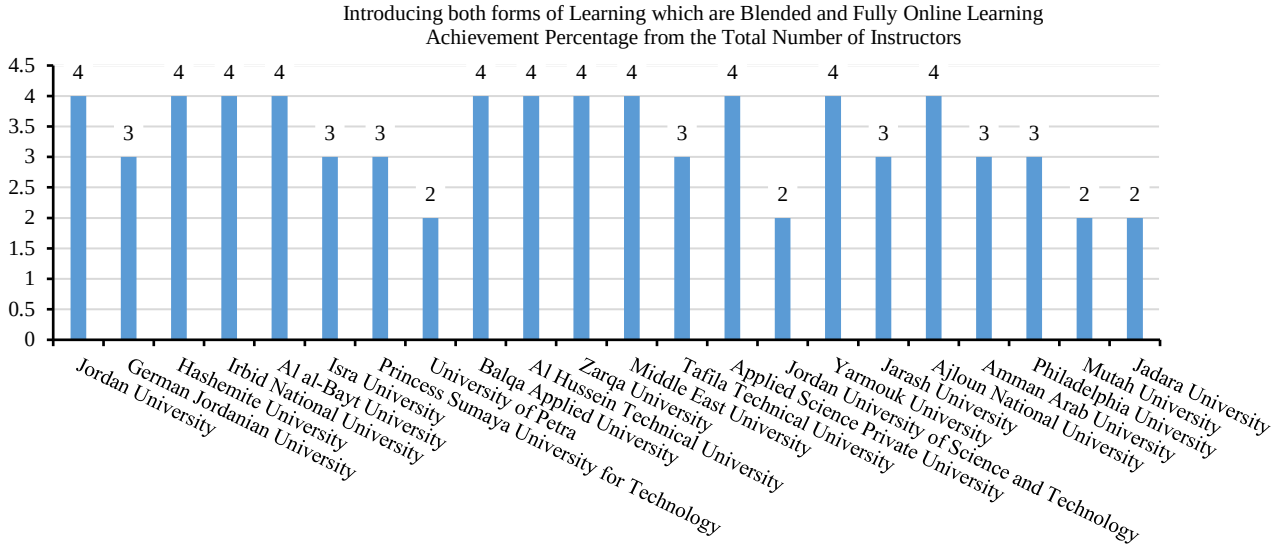

Figure 24. Average percentage of achievement for the component of introducing both forms of learning which are blended and fully online learning.

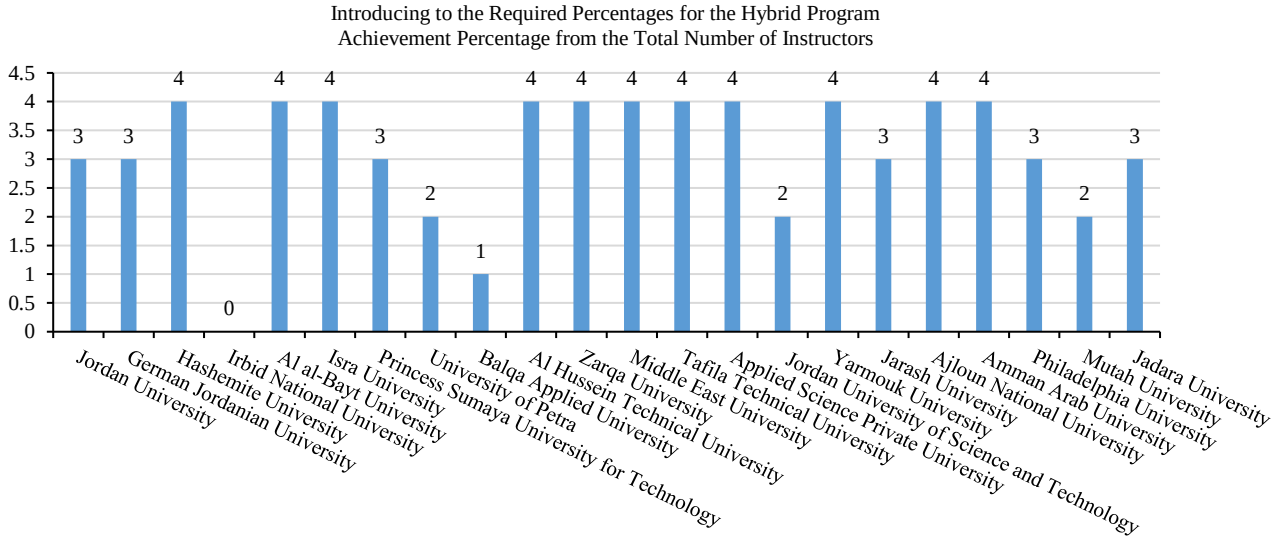

Figure 25. Average percentage of achievement for the component of introducing to the required percentages for the hybrid program.

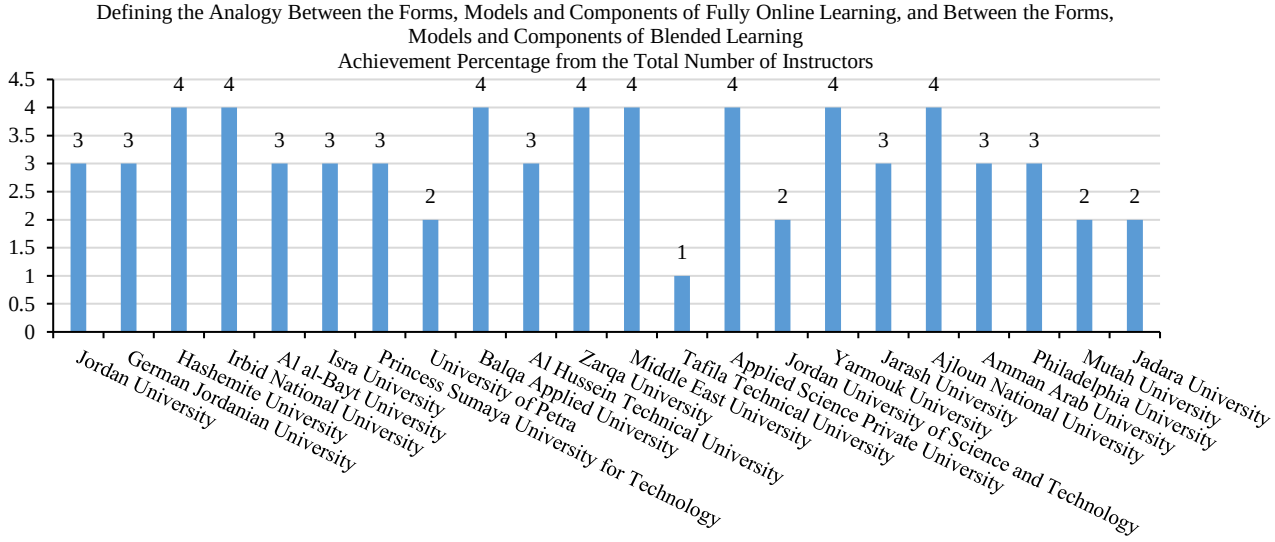

Figure 26. The percentages of achievement for the component of defining the analogy between the forms, models and components of fully online learning, and between the forms, models and components of blended learning.

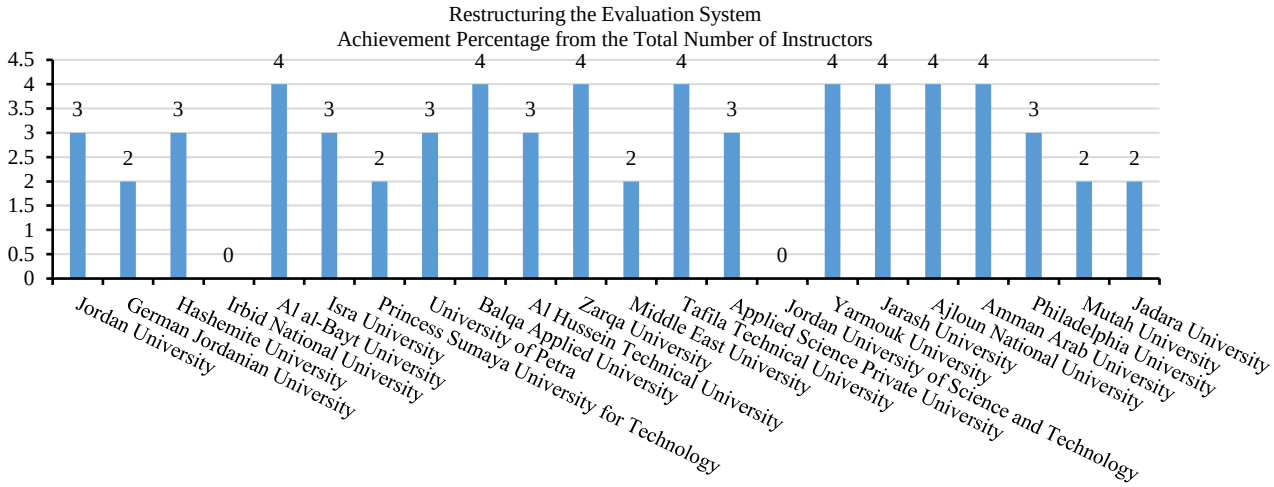

Figure 27. Average percentage of achievement for the component of restructuring the evaluation system.

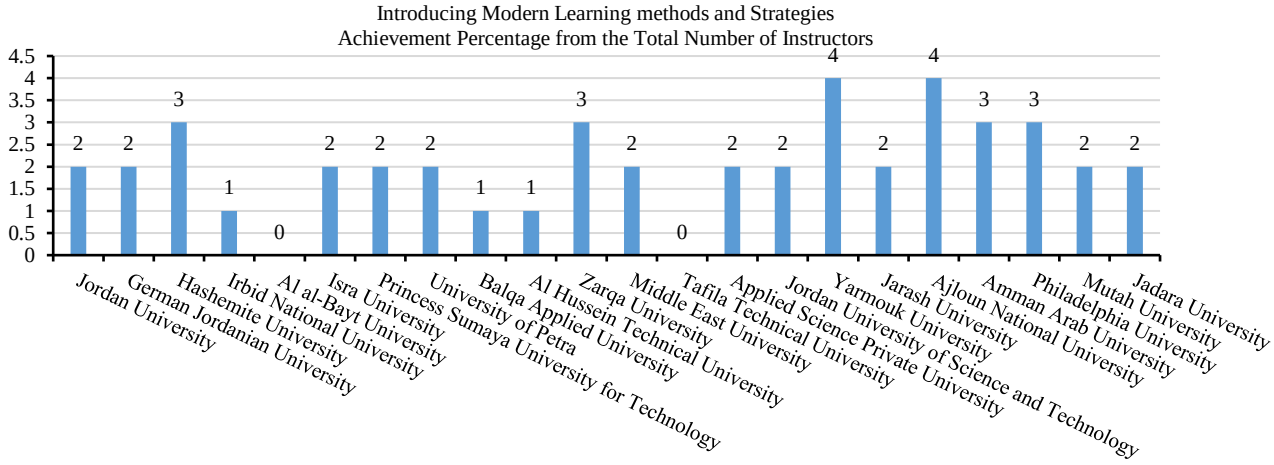

Figure 28. Average percentage of achievement for the component of introducing modern learning methods and strategies.

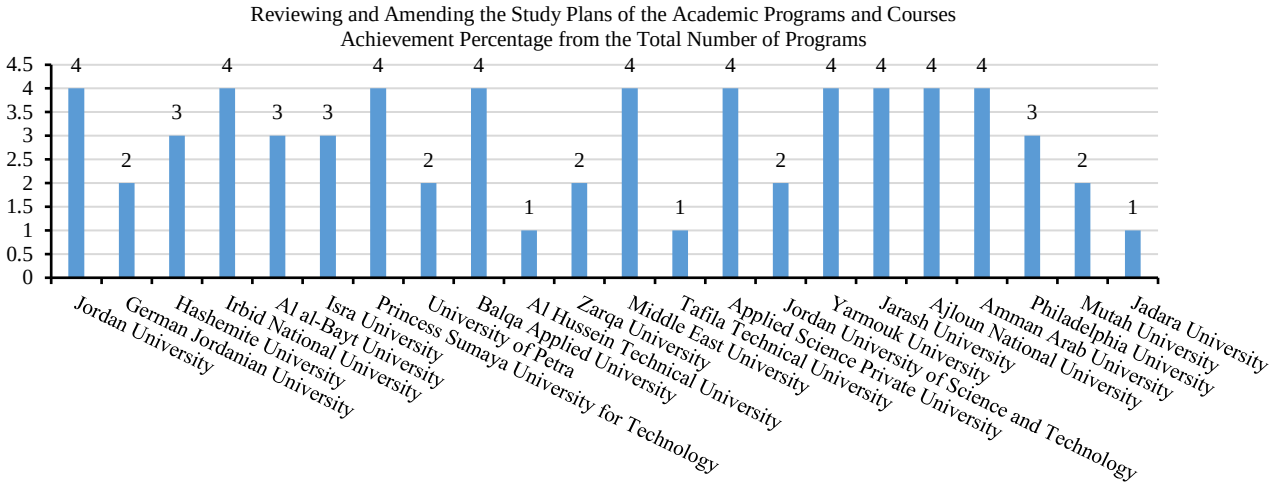

Figure 29. Average percentage of achievement for the component of reviewing and amending the study plans for the academic programs and courses.

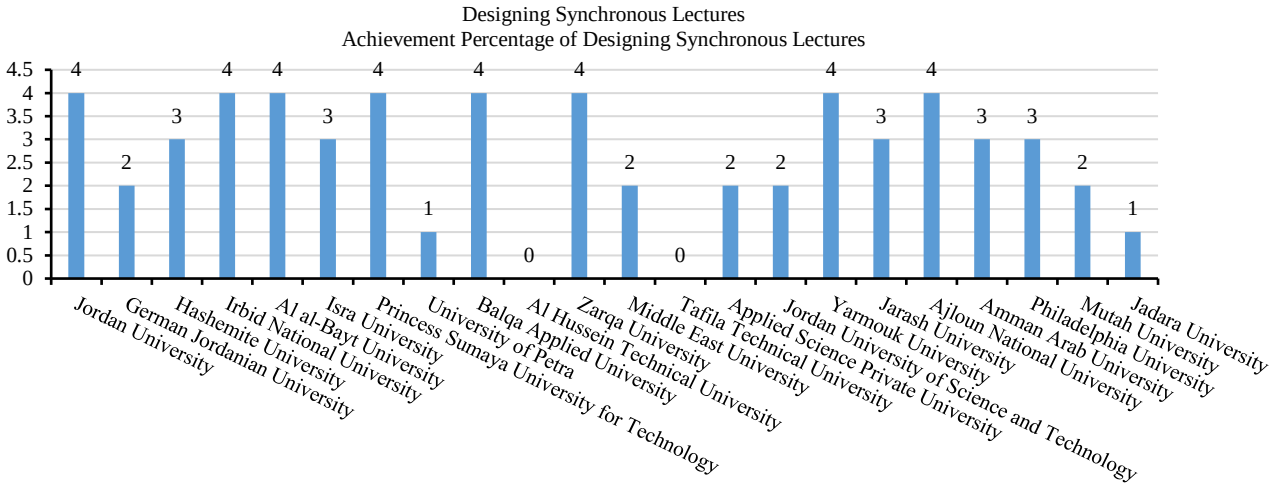

Figure 30. Average percentage of achievement for the component of designing synchronous lectures.

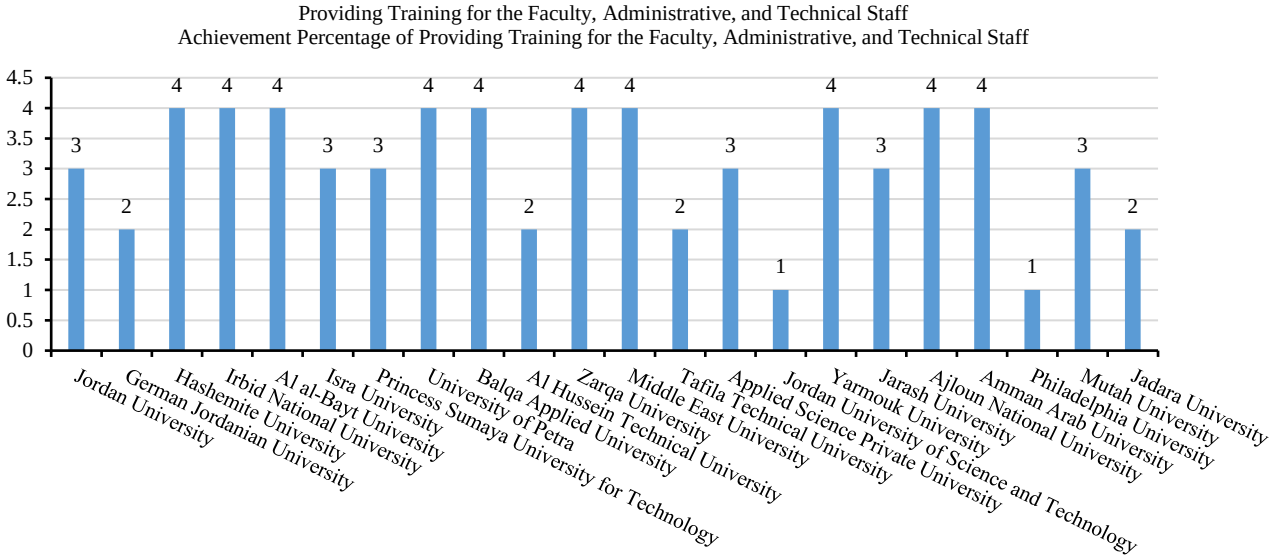

Figure 31. Average percentages of achievement for the component of providing training for faculty members, administrative, and technical staff.

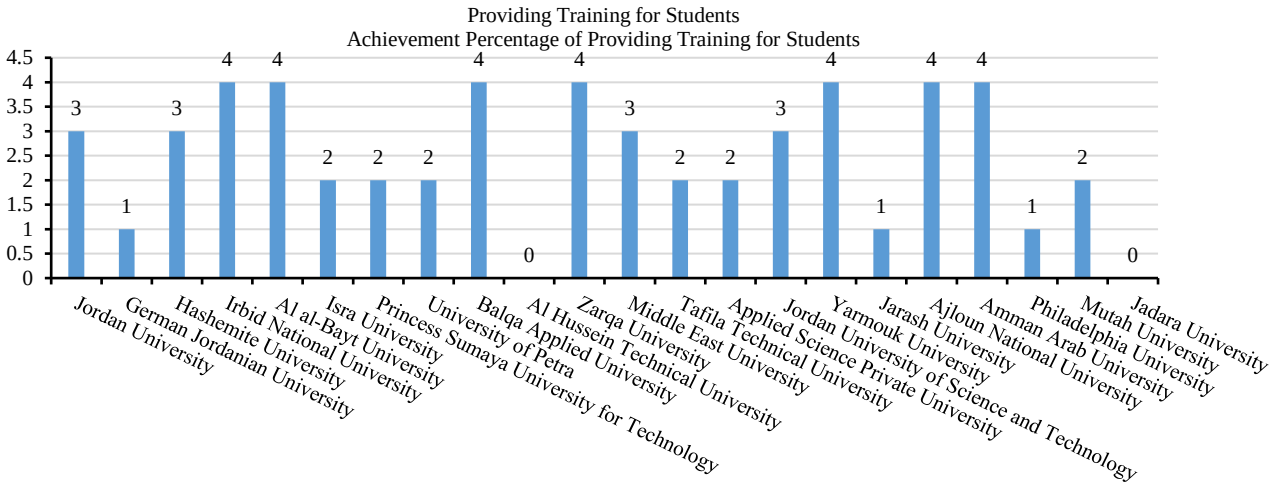

Figure 32. Average percentage of achievement for the component of providing training for students.

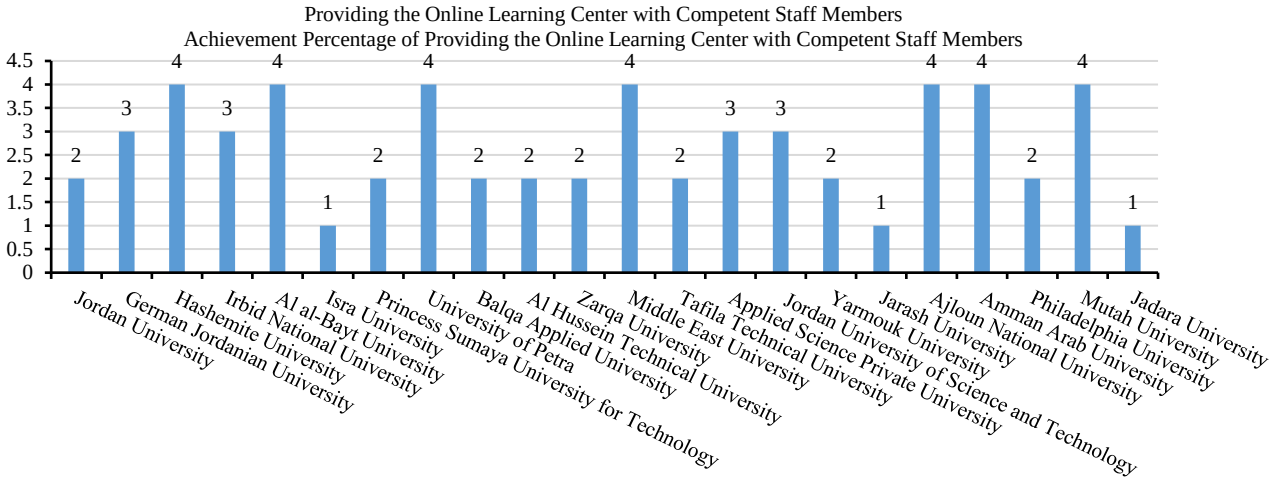

Figure 33. Average percentage of achievement for the component of providing the online learning center with competent staff members.

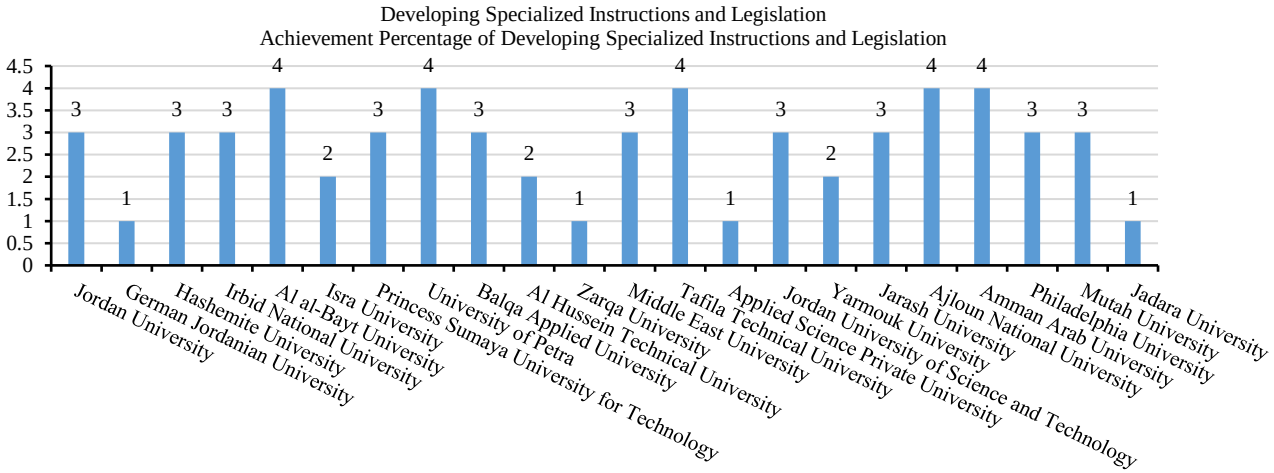

Figure 34. Average percentage of achievement for the component of developing specialized instructions and legislation.

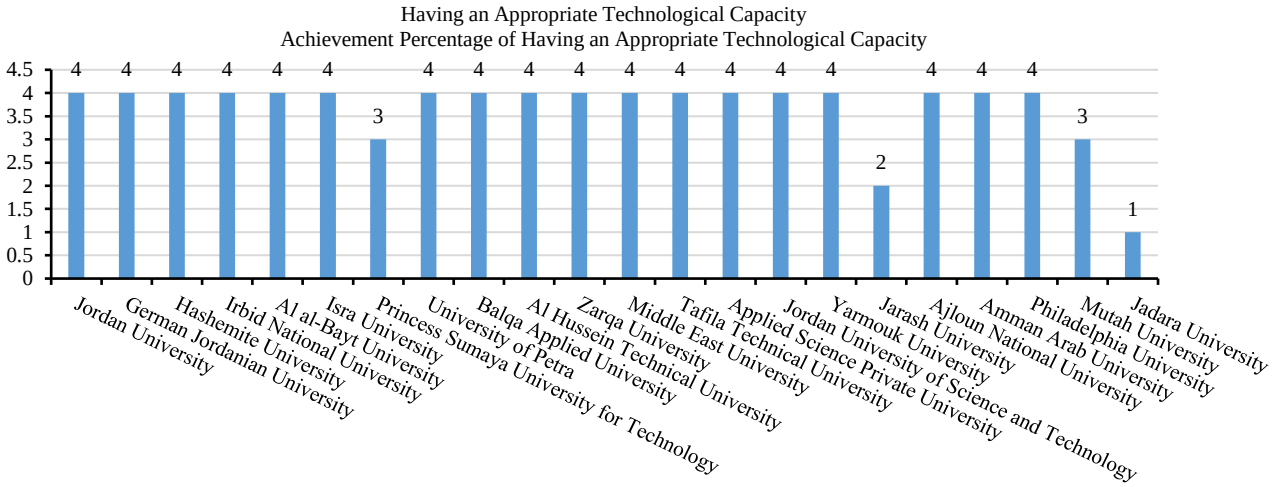

Figure 35. Average percentage of achievement for the component of having the appropriate technological capacity.

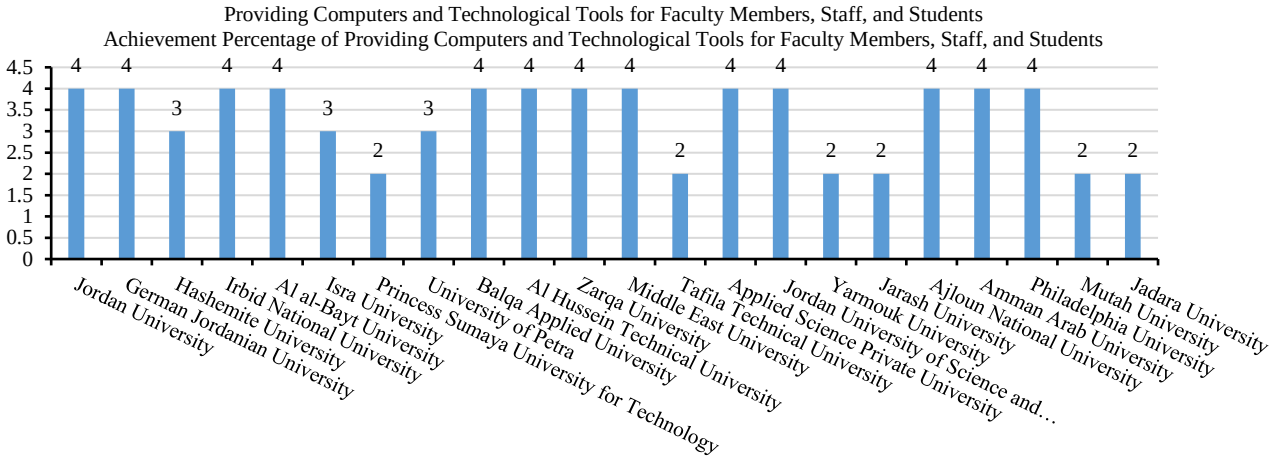

Figure36. Average percentage of achievement for the component of providing computers and technological tools to faculty members, staff, and students.

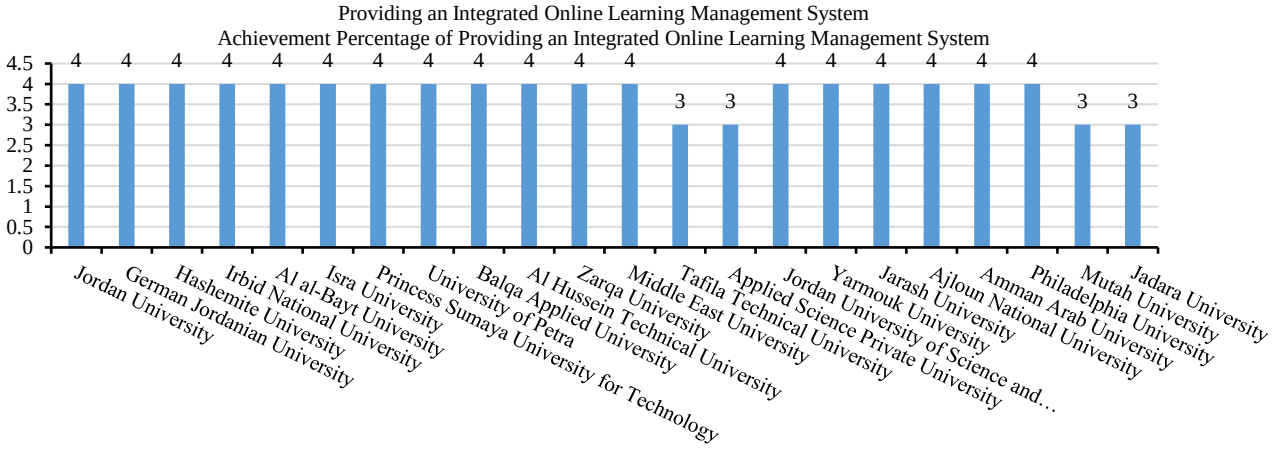

Figure 37. Average percentage of achievement for the component of providing an integrated online learning management system.

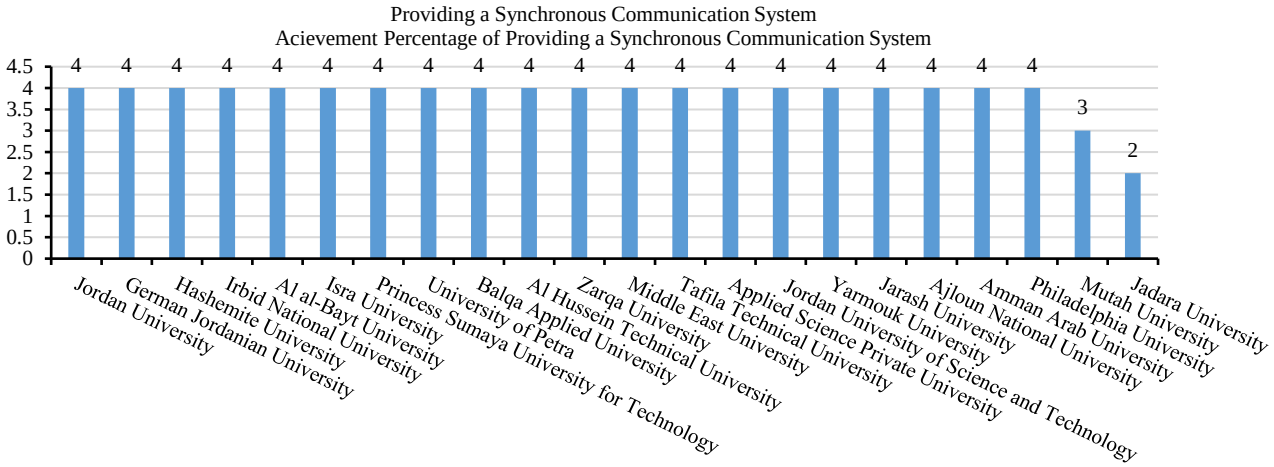

Figure 38. Average percentage of achievement for the component of providing a synchronous communication system.

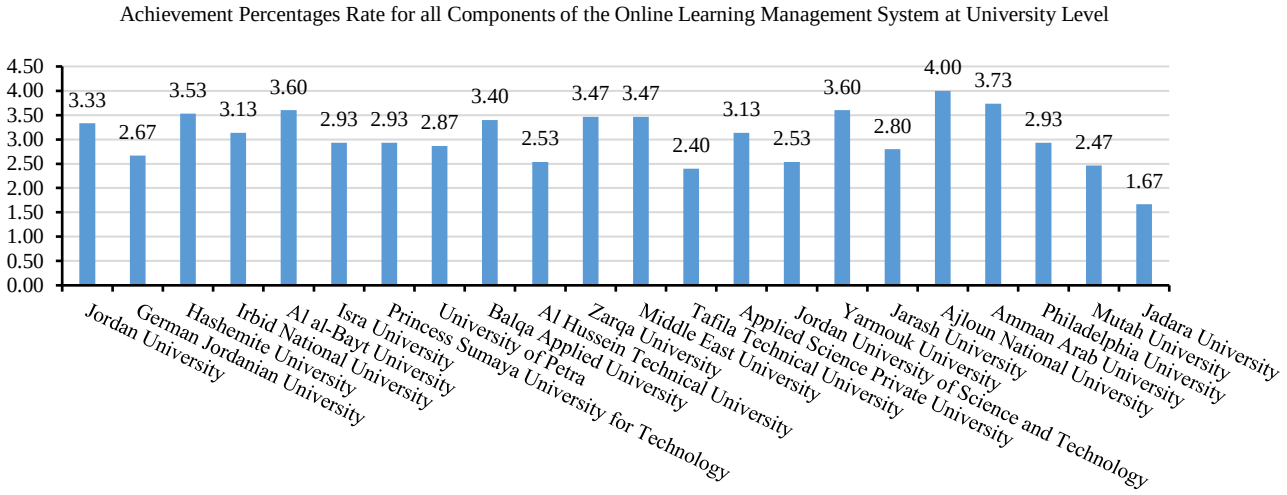

Figure 39. Achievement percentages rate for all components of the online learning management system at university level.

8. Results Discussion

By considering the percentages of achievement for all components of the online learning management system, results showed that, in general, there is clear progress in implementing most of the components, as the highest progress was in the technical infra-structure necessary for implementing effective online learning. This was achieved by having the appropriate technological capacity which ensures providing an integrated system for online learning management that includes developing a synchronized communication system and providing computers and technological tools to faculty members, staff, and students. Results also revealed that the progress in developing instructions and legislation related to online learning varies from one institution to another. However, what is important is that the system for integrating online learning in higher education institutions was issued by a royal decree, and that the Higher Education Council had approved executive instructions for the system. The Accreditation and Quality Assurance Commission for Higher Education Institutions (AQACHEI) had also built foundations to regulate the implementation of blended and online learning in educational institutions. Results also indicated that there is a good progress in some universities in relation to the component of providing training for faculty members; however, all universities still need to conduct more work. What is more important in this context is the maximum benefit from the trainees/trainers who participated in the training courses prepared by the ministry of higher education and scientific research in this field. Results also indicated that there is a good achievement in some universities at the level of achieving the component of reviewing and amending study plans to suit the form of learning adopted in them, but there is still a need for more efforts to be made at this level in all universities.

Additionally, results showed that there are few universities that have not determined the percentages of integration in the programs as desired and taken the required actions. This is essential for the successful implementation of online learning in universities. It is also noted that some institutions have set higher percentages of achievement than expected, especially in the components that are more difficult to be implemented, such as reviewing study plans, introducing modern teaching methods, restructuring the evaluation system, among others. However, percentages must accurately reflect what is actually happening.

Moreover, results showed that some components need rapid intervention to be made by universities to address their imbalances, including the following:

1. Introducing modern learning methods and strategies.
2. Reviewing and amending the study plans for the academic programs and courses.
3. Providing training for students.
4. Providing the online learning centers with competent staff members. This is expected, but it is important to have gradual percentages of achievement.
5. Developing specialized legislation and instructions.
6. Restructuring the evaluation system.

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