

**Developing Avicenna Quality Assurance System (AQUAS) For the
Virtual Campus Project in Iraq**

Qaysar S.Mahdi

Ishik University, Erbil, Kurdistan, Iraq

qaysar.mahdy@ishik.edu.iq

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ABSTRACT

This paper introduces the Avicenna Virtual Campus project in Iraq and Avicenna Quality Assurance System AQUAS which is used to review and approve the produced e-courses in Salahaddin University Erbil, Iraq and Middle East. Starting from AQUAS developed for Avicenna virtual campus in the Mediterranean region (2002-2006). Also the Pedagogical Avicenna Model and the Module Structure Map are designed to produce the E-Courses. The E Learning Management System ELMS is developed and used on the website of Salahaddin university in Erbil during the period 2010-2019 and many courses reviewed according to the Quality Avicenna Assurance Cycle and approved by the UNESCO quality assurance team with the cooperation and support of Philadelphia University, Jordan, then uploaded which are now available to the students and teachers any time and everywhere (Qaysar Mahdi, 2017). Many new technologies are suggested for future to adapt the new ELMS platform as with all technological developments, the education sector must keep its eyes open and assess the benefits and challenges of any innovation through the lens of what is known to be effective teaching and learning.

Keywords: AQUAS, Avicenna, Cycle, Learning, Pedagogical, Quality.

1. INTRODUCTION :PROJECT AIMS AND SCOPE

Traditionally; the word quality was associated with ideas of excellence or outstanding performance. Quality in higher education means fitness for purpose. Institutions define their mission, aims and objectives. Quality is demonstrated by achieving these objectives. This led to designing and building of AQUAS – inspired by the European quality assurance system so-called ‘Bologna declaration’1999. Involved countries have ‘particularly stressed that the quality of higher education and research is and should be an important determinant of Europe’s international attractiveness and competitiveness’. The aim of this project is to design the new technology infrastructure for AQUAS system and quality assurance cycle which are designed and created in order to control the quality of the produced courses according to the standard syllabus for each subject according to criteria of the Avicenna Pedagogical model (Avicenna virtual campus portal). UNESCO planned to build the E learning centers network in Iraq since 2009. The Government of Erbil initiated a pilot study of E-Learning for Salahaddin University here in Erbil – Kurdistan Iraq which is initiating to step toward the same path with vision of integrating ICT into its learning and education system. The E-learning centers have established an online educational portal on 2009 and hope to enroll 15,000 to 20,000 of its students for a degree program. The Kurdistan Strategic Plan for 2010-2019, however, recognizes the importance of ICT in higher education and plans to create a wide-area network that will connect all of the University’s colleges and institutes and provide web-base, the professors are attends as a lecturers .They are going to have an overview on the background on AVCI.

This observation may be taken as an indication of the potential tenability of the hypothesis that the qualification of ICT support staff in the school is beneficial for the staff development of teachers (Pelgrum W, 2001). But, as with all technological developments, the education sector must keep its eyes open and assess the benefits and challenges of any innovation through the lens of what is known to be effective teaching and learning. Educators have faced this technological determinism many times in the past (Oppenheimer, 2003; Postman, 2000). It's a matter of pleasure if the present Government of Kurdistan here in Erbil or in the central of Baghdad declared a vision to build 'Digital Kurdistan or Baghdad' by 2020. This scientific term has the following components: Digital Government, Digital Education, Digital Business, Digital Citizen (Student) and Digital Society (Qaysar Mahdi, 2017).

2. AVICENNA QUALITY ASSURANCE SYSTEM(AQUAS)

2.1. OBJECTIVES

The objectives are to build a quality assurance system for Avicenna virtual campus in Iraq. Starting from AQUAS system developed for Avicenna virtual campus in the Mediterranean region (2002-2006). It is natural that Avicenna Virtual Campus defines and builds its own quality assurance system. This led to designing and building of AQUAS - inspired by the European quality assurance system.

2.2. PEDAGOGICAL AVICENNA MODEL STRUCTURE

Integrating innovative technology during classroom practices inevitably demands teachers to acquire new technological and pedagogical skills (Clark W, Luckin R., 2013). Figure 1, show the Pedagogical Avicenna Model and the Module Structure Map which is designed according to UNESCO standards for Virtual Campus. The total number of sequences for each Avicenna Module which has 60 sequences, each sequence period is 20minutes and the total period for each Avicenna Module is 1200minutes which is equal to 20hours. Each course may consist more than one Avicenna Module depending on the syllabus content of the course (Mohamed N. Bettaz,2009)

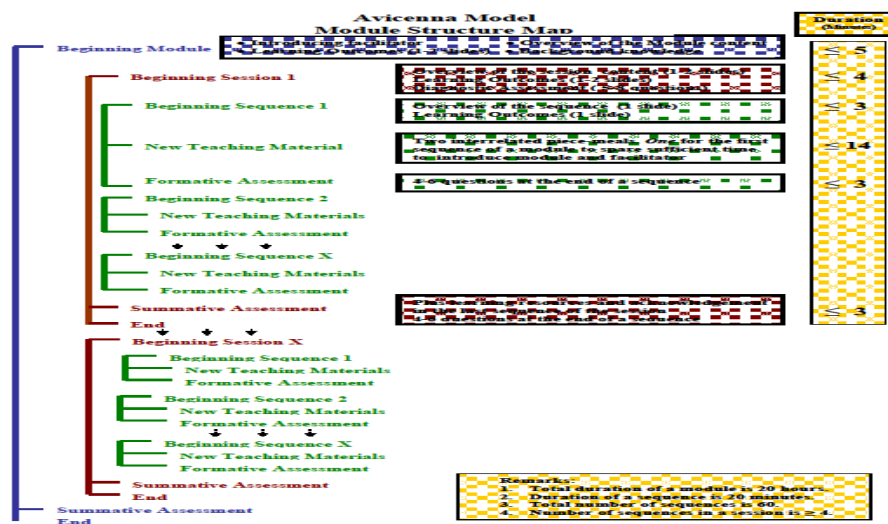


FIGURE 1: Module Structure Map of Pedagogical Avicenna Model (Qaysar Mahdi, 2017).

2.3. THE EUROPIAN QUALITY ASSURANCE SYSTEM(Eija Vierimaa, 2009)

Started by the so-called ‘Bologna declaration’, signed by most of the European governments in 1999. Commitment to the objective of establishing the European Higher Education Area, with quality (of higher education) as the heart of setting up of such an Area. Involved countries have ‘particularly stressed that the quality of higher education and research is and should be an important determinant of Europe’s international attractiveness and competitiveness’. Designed for Avicenna Virtual Campus in the Mediterranean region (2002–2006), it was dedicated to the management and accreditation of produced (developed) courses. Avicenna accreditation process ensures that courses produced by members of Avicenna network do respect defined objectives. AQUAS (in its original edition) were supported by a website allowing applying (online) for:

- Course production (development), and for
- Course accreditation.

Approval for course production obeys the terms of the author’s contract. Approval for course accreditation is subject to the requirements of the pedagogical model. Accredited courses are installed in the Avicenna virtual campus library.

2.1.1. AQUAS WEBSITE

The AQUAS website allows each Avicenna knowledge center to access the following:

The list of all the proposals (for course production) made so far by Avicenna knowledge centers. Authors express their interest in proposals made by other Avicenna knowledge centers, and to know about other Avicenna knowledge centers which are interested in their proposals.

The list of courses which have been approved for production (by different Avicenna knowledge centers).

The list of accredited courses (and then installed in the Avicenna virtual campus library).

2.3.1. The accreditation committee ()

The accreditation committee members review proposals and take appropriate decisions.

They review production and take appropriate decisions.

They work tightly with the Scientific Council.

2.3.2. The scientific council

Consisting of representatives from different academic institutions hosting Avicenna knowledge centers.

The architecture and infrastructure of the computer network links is shown in Figure 2. Academic institutions hosting Avicenna knowledge centers AKC (Mohamed N. Bettaz, 2011), Chaired by UNESCO.

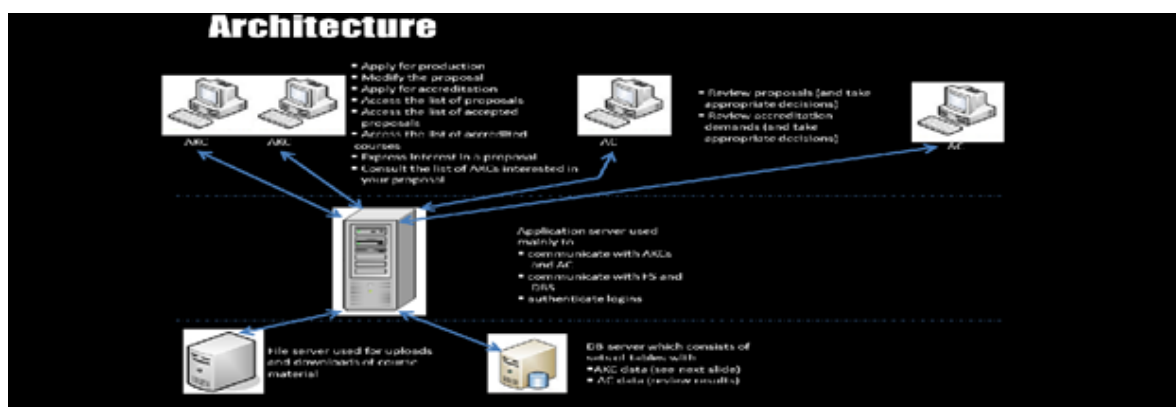


FIGURE 2: Architecture and infrastructure of the computer network links academic institutions hosting Avicenna knowledge centers AKC (Mohamed n Bettaz, 2011)

Figure 3, shows the QAUAS system on the portal of Avicenna Virtual Campus.



FIGURE 3: Avicenna Virtual Campus Quality Assurance System (Mohamed n Bettaz, 2011)

3. E-LEARNING MANAGEMENT SYSTEM ELMS AND E-CURRICULUM

Using the Moodle Platform, the E-Courses and Avicenna Modules are designed and managed according to the syllabus of the subject. The ELMS is designed and organized to contain the following results, see Figs. 4 and 5;

1. The produced sequence according to the timesheet technology.
2. The power point lecture.
3. The Quiz assessment for each lecture.

Salahaddin university and Philadelphia university published the produced e-course .

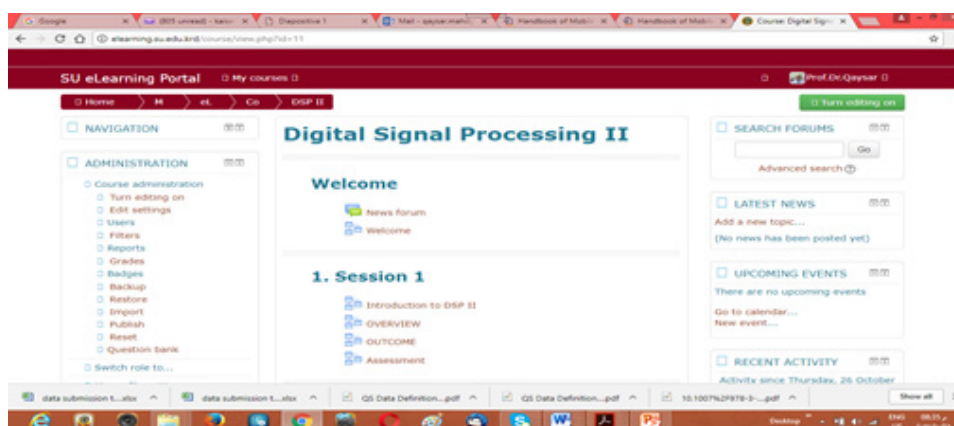


FIGURE 4: ELMS for Digital Signal Processing Course, Salahaddin University (Qaysar Mahdi, 2017)



FIGURE 5: ELMS for Digital Signal Processing Course with Video lecture; Power point slides and lectures Assessment, Salahaddin University (Qaysar Mahdi, 2017)

4. QUALITY ASSURANCE FOR AVICENNA COURSES (Qaysar Mahdi, 2017)

This section will address mainly the quality of content development (course production). Quality is guaranteed by the criteria defined in the Avicenna pedagogical model. Additional processes related to course development models which might enhance quality. Among such processes, peer review is an important component of any e-learning course development model.

- i. Outline
- ii. Peer review process
- iii. The essence of peer review
- iv. Cycles within the development process
- v. The content production cycle
- vi. The peer review cycle
- vii. Examples of criteria.
- viii. The role of feedback in enhancing the process
- ix. The peer reviewers
- x. Some differences with face-to-face Includes feedback from e-learners.
 - In face-to-face teaching mode, peer review concerns only course delivery.
 - In e-learning, peer review process concerns Content development, and Course delivery.

Figure 6, shows the Quality Avicenna Assurance Cycle.

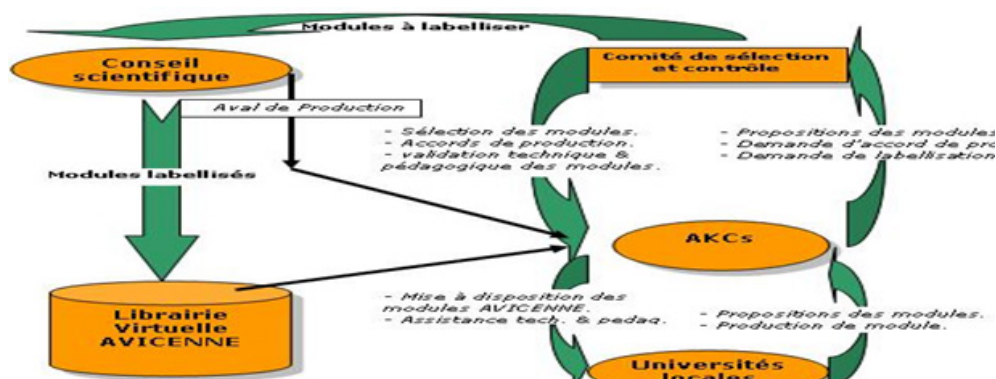


Figure 6: Quality Avicenna Assurance Cycle (Mohamed n Bettaz, 2011, Qaysar Mahdi, 2017).

4.1. EXAMPLES OF AVICENNA ON LINE COURSES

Figure 7, shows the on line course for E-Lecture on Electromagnetic fields in Salahaddin University Website Avicenna portal while , Figure 8 , shows examples of online courses produced by the Avicenna Virtual Campus (2009-2018), in different countries, Iraq, Egypt, France, Algeria, etc.



FIGURE 7: E-Lecture on Electromagnetic fields (2010-2018) (Qaysar Mahdi, 2017)

Figure 8, shows examples of online courses produced by the Avicenna Virtual Campus (2003-2006) in different countries, Egypt, France, Algeria, etc. (UNESCO,2013).

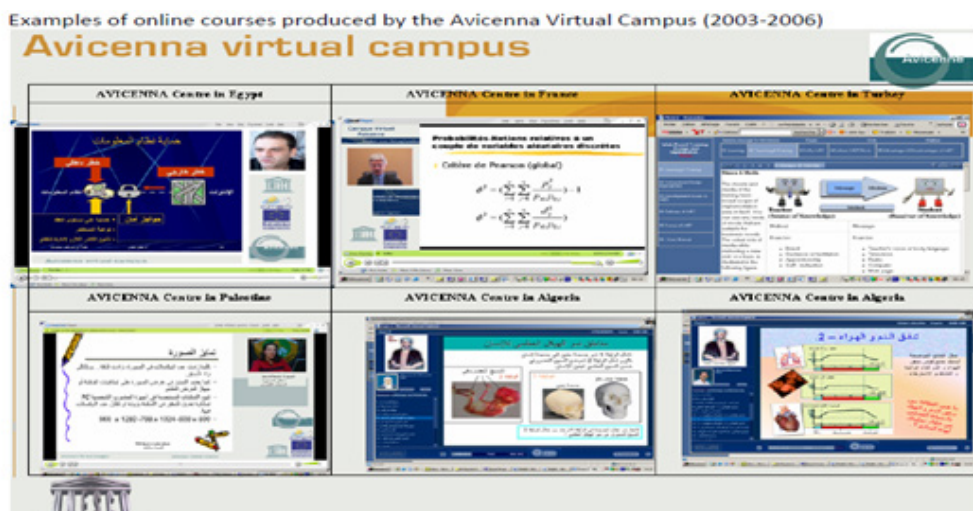


Figure 9: Examples of online courses produced by the Avicenna Virtual Campus (2003-2006) in different countries, Egypt, France, Algeria, etc. (Qaysar Mahdi, 2017).

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5. CONCLUSION

This project introduced and studied the following topics;

The UNESCO Virtual Campus Project in Iraq.

The pedagogical model development for Avicenna course.

The AQUAS development quality assurance cycle.

Many courses have been developed in AVC centers around the world according to the present model and the facilities of the mobile phone are used to design and publish the ELMS.

AVC E Learning centers of Salahaddin University Erbil Kurdistan and Philadelphia University in Jordan developed many e-courses on their website. For future it is suggested the cloud computing technology for new ELMS and on line QAUAS system.