

# **Active Pedagogies and the Experience of the Virtual University of Tunis-VUT in Improving the Quality of Higher Education**

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## ***Abstract***

With the globalization and emergence of new information and communication technologies (ICTs), universities will have to resort to new learning practices to meet the challenge of competitiveness. The Tunisian university stands in this field and is at the heart of a process of change characterized by the revival of innovation activities and the reconfiguration of the higher education system in order to respond to the dynamization of life Economic development and job creation for graduates.

This work will present the experience of the Virtual University of Tunis "VUT" (the word in French: "Université Virtuelle de Tunis-UVT") in the reform of higher education through the use of innovative teaching tools and techniques such as the use of ICT, videoconferencing, digital pedagogy, Distance learning, ... and this by applying an active platform "Moodle".

Based on a documentary analysis (analysis of self-evaluation and evaluation reports) and an interview with a person in charge of the VUT technical department, we were able to identify the roles and impacts of the intervention of this university, through its innovative actions, in the achievement of the efficiency of Tunisian higher education.

**Keywords:** E-Learning, Innovation, Moodle, UVT, Evaluation, digital pedagogy, ICT.

## 1. INTRODUCTION

As New ICTs are present in all tertiary professions, they are involved in a whole range of academic practices. These practices are evolutionary over time, at the basis of qualifications, they serve to identify new learning and teaching situations. Through the evolution of remote telecommunication technologies, learning has become an online learning.

Lehman & al. (2005) [1] verified that E-learning is a mode of training that is independent of time and place through the use of ICTs such as CD-ROM, Internet, videoconferencing, DVD Or intranet.

As part of the policy of modernizing higher education on an international scale, Tunisia marks its progress in the development of ICTs and the adaptation of these technologies to the needs of education and their insertion in the Society and the knowledge economy as a whole (Triki & Ouerghi, 2007) [2]. The VUT is part of this framework through the use of the Moodle teaching platform.

The objective of this research is to explore the use of Moodle in the learning of students in different fields of education at the level of the VUT.

Our study, compared to previous studies, tries to show a particular successful case of Tunisian university in the context of active pedagogy and virtual learning.

In this work, we wish to show how the experience of VUT in the use of the "Moodle" platform makes it possible to improve the quality of university education Tunisian.

The research design is based on a qualitative study focusing on a documentary analysis and an interview with a technical director in the UVT (Ben Toumia [3]).

## 2. CASE STUDY OF “VUT”

In this section, we will first present the university and then expose the experience of UVT in active pedagogies.

### a. Presentation of the Tunis virtual university

The Virtual University of Tunis (VUT-“UVT”) was created in January 2002 (Decree No. 2002-112 of 28 January 2002). It is a public institution whose main mission is to develop online courses and university programs for Tunisian universities. Its mission, objectives, training regime and relationship with other universities are set out in Decree No. 2006-1936 of 10 July 2006 [4].

The VUT is both an institution that offers its own (remote) functions and delivers degrees, a supervising university like any other university (Higher Institute of Education and Continuous Training HIECT – in French “ISEFC: Institut Supérieur de l’Education et de la Formation Continue”) And a structure at the service of all universities.

#### **Objectives:**

- Ensure and gradually introduce non-face-to-face training with a view to making it a diploma and certifier,
- Integrate a rate of non-face-to-face lessons in face-to-face training,
- Unifying initiatives related to educational technologies,
- Facilitate the dissemination of the culture of continuous training and lifelong learning in an environment based on science and innovation, through the use of new information and communication technologies,

- To strengthen equality of opportunity in the field of higher education, to combat exclusion and to ensure that this training affects the greatest number of target audiences outside the circle of regular students,
- Carry out regular research to identify new training needs and develop the university's relations with public and private institutions,
- To work for the development of university partnership in its national and international dimensions and the prospects for private sector participation.

To achieve these objectives, VUT provides its students with professional training tailored to the needs of the economic, social, national and international environment. It offers several training programs: master courses, licenses, continuous training and certifications.

It is responsible for coordinating activities related to non-presential training in Tunisian universities, offering:

- Transverse teaching units: IT, English and entrepreneurship (in the various university courses),
- Training of trainers for the use of ICTs, digital pedagogy and screenwriting courses,
- Teaching spaces online, provided on the platform "Moodle",
- Access centers, videoconferencing centers and digital production laboratories.

The VUT statistics, according to the EVALUATION REPORT of 09 November 2015 [5], are summarized as follows:

In the academic year 2014 - 2015, VUT has 520 students enrolled in full-time training, 46084 students enrolled on the integrated training platform, 1168 teachers using the integrated training platform, and 295 course spaces open on the platform of integrated training. There are 600 teachers and 1050 certified students in C2i ((Internet and Informatics certificate) and 250 certificates in the OTE "Ongoing Training in English" training course. The UVT has relatively extensive teaching resources: 552 online courses on RPL (Reverse Polish Lisp), 685 articles, scientific papers, report of end-of-study project and end-of-study dissertation on e-doc and 621 registrations Audio-visual (conferences, seminars, courses) on the media library.

The analysis of the documents of the VUT [6] shows an evolution (see Table 1 on the website of the UVT) at the level of the number of learners in the year 2015-2016.

**Table 1.** The VUT in Statistics (academic year 2015-2016) [6]

Students	Number of students
Students enrolled in the Masters	382
Students enrolled in the license	209
Total	591
Integral formations (training)	Number of training
Professional Masters	8
Research Master	1
Basic license	2
Applied license	4
Digital work area (Integrated training)	

Registered students	62472 (number of students registered)
Registered teachers	1282 (number of teachers registered)
Open spaces training	2080 (number of spaces of courses)
<b>Certifying trainings</b>	
<b>Certification C2i</b>	<b>Number of students</b>
Certified students C2i (IT and Internet Certificate)	448
<b>IBM IT Certification</b>	<b>Number of people Trained/Certified</b>
Trained students / IBM-IT certified	234 / 64
Trained Teachers / IBM-IT certified	155 / 91
<b>English Training OTE</b>	<b>Number of Certificates</b>
Certificates issued with the English Training OTE "Ongoing training in English"	250
<b>Digital Pedagogic Resources</b>	<b>Number of ...</b>
Digital Courses	554
Articles, scientific papers, report of IEP graduation memories and e-doc	692
Audiovisual recordings (conferences, seminars, courses) on the media	824
<b>Training of Trainers</b>	<b>Number of Teachers</b>
Teachers who have benefited from the online training engineering training "IFEL"	462
Teachers who have benefited from IBM IT training	155
Teachers who have benefited from training appropriation of C2i content	22
Teachers who have benefited from ICT training and LMS	16
Teachers who have benefited from training in entrepreneurship and active pedagogy	129

#### **b. VUT and Pedagogical Innovation**

In the framework of an integrated strategic project designed to accelerate the development of the university and the transition from virtual education in Tunisia from a launch phase to that of growth, innovative and complementary strategic actions have been designed and Implemented on the initiative of the VUT. See Figure 1 in the French version according to an article published in "L'ECONOMISTE MAGHREBIN".

The VUT is looking to become an innovative national and international reference university. It has thus become the first Tunisian university to have a four-year Development plan and to have a vision officially adopted in the long term and a clear vision on its situation in 2020, following the implementation of its plan Strategic Development 2016-2019.



**Figure 1.** Strategic development plan 2016-2019 of the VUT (“UVT” in French)

With:

- EPA in English “PIA”: Public Institution with an Administrative character
- EPST in English “PIST”: Public Institution with Scientific and Technological character

To meet the challenge of pedagogical renovation, the UVT was able to ensure a dual mission: pedagogical and technical (Decree n ° 1936-06 of 10 July 2006 [8]).

Its pedagogical mission includes the following four main tasks: providing integrated non-face-to-face training, providing full non-face-to-face training, producing digital and innovative teaching content, and training faculty, trainers, technicians and managers.

Its technical mission includes the following tasks: hosting digital educational content to meet the needs of non-face-to-face education, directing and managing non-face-to-face training platforms, creating and developing websites related to training programs and applications Specific to the university and to enrich other applications as needed, to ensure the proper functioning of the computer security system linking the distance learning platform and the distance learning centers, to supervise and follow the work of the teaching centers Distance and videoconferencing centers and digital production laboratories and provide services in the field of non-face-to-face training based on the experiences and skills available at the university.

This mission allows the UVT to position itself in the Tunisian higher education space as complementary to the classical universities (face-to-face training) and makes it unavoidable. It is innovative for some formations, for example in neuroradiology and neuroimaging. The university has also taken the initiative to adopt innovative teaching

methods (eg. MPQSE: Master's Degree in Integrated Management: Quality, Safety and Environment).

Because of its mission, the UVT is therefore involved in the project Tunisie digitale 2018, and it is an actor in the plan of reform of Tunisian higher education. UVT was able to broadcast the "Moodle" platform and the Digital Work Area (ENT in French).

### 3. “MOODLE” TEACHING PLATFORM [9] IN THE VUT

The UVT uses the Moodle platform (Modular Object-Oriented Dynamic Learning Environment) as an active pedagogy to ensure a better quality of teaching.

It is a free e-learning and open source e-learning platform: it is a system, accessible with a web browser, which allows managing online courses (space of repository of documents, On-line activities with students, management of registrations and access rights, distance tutoring, etc.).

“Moodle” [10] allows the university to manage pedagogic resources, to associate interactive learning activities and to evaluate students. It is characterized by:

- A very large community of very active users,
- Scalable,
- No problems in portability issues,
- Compatible with various operating systems,
- is managed by module,
- With the possibility of delegating administrative rights
- Is a free software.

The VUT was able to organize and carry out, on a technical level, the creation of courses on Moodle: a platform for integrated training (<http://ent.uvt.rnu.tn>) and a platform for continuous training via migration to "Moodle 2.7" (<http://fad.uvt.rnu.tn>).

In this context, these on-line courses can allow teachers to distribute electronic documents and teaching aids, which can be accessed by students at any time, and to create and animate online activities individually or in groups. This platform also makes it possible to make available to the students, information about the course at any time and remotely, self-evaluation or self-study questionnaires and communication tools (forums, chat ...).

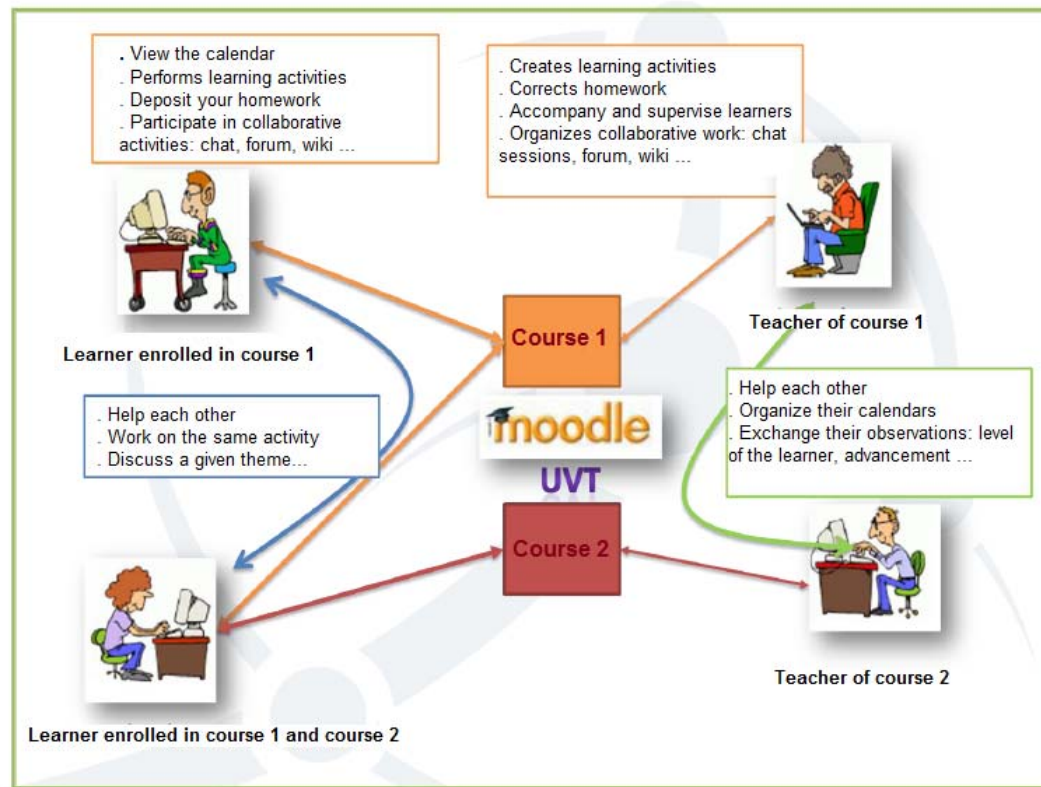
The VUT has put on its site some examples of use of Moodle: to disseminate electronic documents (course materials, annals, corrected ...) that can contain many multimedia elements (web link, texts, images, sounds, video , Animations, etc.), carry out self-evaluation tests (random questioning, automatic correction of results, personalized feedback, ...), publish the evaluation questionnaire with management of answers and statistics, offer assignments online (with management of discounts, notation, corrections, ...) and many other uses ... .

What is a Moodle course?

- A course is an online space accessible remotely from a web browser.
- Only authorized persons can access this space.
- This space contains various elements placed, parameterized and managed by the teacher (s) of this course.
- These elements are visible and usable by students enrolled in this course.

In fact, Moodle manages "users" who are enrolled in "courses" with a particular "role" ("teacher", "student" or other ...).

The individual gets different access rights depending on his / her role (in short: a teacher can modify the course, while a student can only consult and use it). See Figure 2 [11]



**Figure 2.** Organization and creation of courses on Moodle-VUT "UVT"

#### 4. EVALUATION REPORT OF THE VUT AND EFFECTIVENESS OF HIGHER EDUCATION

The VUT has been the subject of an external evaluation by international experts. This external evaluation was preceded by a self-evaluation process carried out by an internal committee at the university. The university evaluation, conducted with the support of international partners, is part of a set of strategic actions that aim to make the VUT an innovative university of reference both nationally and internationally.

The VUT is not an ordinary university, so its specificities were taken into account during the self-assessment.

The observation of the achievements of the VUT since its creation now makes it possible to confirm that the ICT and the distance education in Tunisia exceeded the stage of launch thanks to the VUT. The challenge today is to enter the growth phase requiring rigorous planning and organization in the VUT alone that can ensure a good articulation between the objectives and the means to be put in place.

Aware that it has to ensure that it adheres to the most advanced quality standards and fully assures its role as an innovative reference university, VUT has initiated several projects of a strategic and complementary nature.

Following its external evaluation, the National Evaluation, Quality Assurance and Accreditation Body ("IEAQA" in French) has issued a favorable opinion on the transformation of the status of the VUT into a Public Institution of a Scientific and Technological-PIST ("EPST" in French). This status enabled it to enjoy financial autonomy and the same management flexibility as non-administrative public institutions.

Since 1 January 2016, VUT is the only autonomous university in Tunisia. The role of VUT in the design of online courses and the administration of online training platforms gives it the opportunity to carry out analyzes of systematic calculation of data or statistics of students to help to improve the quality of its programs and to reduce the apparently high drop-out rate, and to compensate for the very low interaction between the students and the institution. This ambitious initiative on the part of the VUT, at the request of the Ministry and in collaboration with the traditional universities, made it possible to create added value for teaching.

Compared to a type of public management that is unsuited to the specificity of VUT and its new context, the university has been able to integrate a strategic development plan (quadrennial 2016-2019) that is mobilizing and unifying. This project is being used as a means to introduce a new culture at the level of university officials and staff.

The VUT thus became the first Tunisian university to have a four-year development plan and to have a vision officially adopted in the long term and a precise vision on its situation in 2020, at the end of the execution of its project.

## **5. CONCLUSION**

In Tunisia, it was not obvious in 2002 to launch e-learning; The VUT was thus a pioneering university.

The university translates its standards and values into a new pedagogical practice affecting its teaching, research, management (including student services) structures and activities and external services. She is always trying to match her activities to the expected teaching standards.

VUT has been able to participate in improving the quality of higher education through the implementation of quality assurance in the management of informal training (ISO 29990) and later ISO 9001.

The change in the status of the VUT, as public science and technological education (EPST in French), enabled it to begin the development of its development project. This strategic plan served as the basis for the signature of a performance contract with the Ministry of Higher Education and Scientific Research. This has marked the reactivation of contracting in higher education since the beginning of 2010.

"The VUT will be an innovative university of reference at national and international level". Thanks to this project, the university has entered a new stage which should favor more performance and rapid development.



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