



A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1-

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Date of Reception : 12/12/2018 ; Date of revision : : 18/08/2019 ; Date of acceptance : : 06/10/2019

ABSTRACT:

Quality cannot be discussed without evaluation mechanisms. The self-assessment process requires the development of a quality assurance system and the establishment of a continuous assessment system to control the dynamics of the development of the various activities of the university and to identify the strengths and weaknesses of the university in developing its strategies and future plans to improve quality and achieve the requirements of institutional accreditation.

The objective of this study is to highlight the effectiveness of the self-evaluation process in improving the quality of scientific research according to the criteria of the National Reference of Quality Assurance by analyzing the evaluation results of the Quality Assurance cell at Setif University -1- in 2017, and discussing the contribution of evaluation methods used to reflect and improve the real situation.

Keywords: Quality assurance, Self-assessment, Scientific research, National reference.

JEL Classification: I21; I23

RESUME :

La qualité ne peut être discutée sans mécanismes d'évaluation. Le processus d'auto-évaluation nécessite la mise en place d'un système d'assurance qualité et la mise en place d'un système d'évaluation continue permettant de contrôler la dynamique de développement des différentes activités de l'université et d'identifier les forces et les faiblesses l'université dans l'élaboration de ses stratégies et de ses plans futurs pour améliorer la qualité et répondre aux exigences de l'accréditation des établissements.

L'objectif de cette étude est de mettre en évidence l'efficacité du processus d'auto-évaluation dans l'amélioration de la qualité de la recherche scientifique selon les critères de référentiel National d'Assurance Qualité en analysant les résultats de l'évaluation de la cellule d'Assurance Qualité de l'Université de Sétif en 2017, et discuter de l'apport des méthodes d'évaluation utilisées pour refléter et améliorer la situation réelle.

Mots clés : Qualité Assurance, Auto-évaluation, Recherche scientifique, Reference nationale

Classification JEL: I21 ; I23

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A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

INTRODUCTION:

Quality assurance in higher education is fundamental to the educational process as quality is a priority of the development plans and the requirements for improving the outputs of higher education.

The Algerian higher education has undergone many stages in which it has encountered many difficulties and problems that hinder the effective role of the university in society. The degradation of quality in higher education is one of the biggest problems that reflect the difficult conditions in the Algerian universities.

Although efforts have been made to ensure quality, there is a delay, especially in the fields of scientific research and formation. The Algerian educational system recognized the necessity of implementing quality assurance in higher education. It established the so-called National Council for Evaluation in 2008. The Ministry of Higher Education organized an international conference on quality assurance. On May 31, 2010, the National Committee for the Application of Quality Assurance in Higher Education (CAQAHE)[†] was established. And To ensure the quality of the different activities of the university, Algerian universities have adopted a quality approach allowing them to establish and implement a system of self-assessment which consists of comparing the references of the national quality assurance reference for higher education (NQAR)[‡] - set of objectives and values defining an ideal state fixed to the actual practices of the institution.

Research Problem:

This article aims to highlight the effectiveness of the self-evaluation process in improving the quality of university education according to the national quality assurance reference. We will try to answer the following questions:

- What are the stages of establishing a quality assurance system in Algerian higher education?
- What are the criteria for improving the quality of scientific research according to the new reference for quality assurance in Algeria?
- To what extent the methods of self-evaluation used at the University of Setif can reflect and improve the reality of scientific research?

Research Objectives:

The objective of this study is to analyze the stages of establishing a quality assurance system in Algerian higher education institutions by reading the components of the National Reference of Quality Assurance, analyzing the results of the self-evaluation in the field of scientific research at Setif university, and discuss the effectiveness of the means used in the self-assessment process to improve the quality of scientific research.

Previous Studies:

1. **Yaqubi Khalifa et al. (2013):** Possibility of Applying Total Quality Management in Higher Education in Algeria, Case Study Saida University. The objective of this study is to look at the views of students in Algerian universities regarding the quality of administrative management, faculty members and compliance with TQM standards through an applied study that adopted a set of statistical methods.

[†] The national committee for the application of quality assurance in higher education includes a group of national and international experts and professors. Its mission is to ensure the implementation of quality assurance standards in Algerian higher education institutions.

[‡] The national quality assurance reference for higher education institutions comprises seven domains representing the main activities of the University, published for the first time in 2011 and modified in 2016.

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

The study found that there is no commitment by both management and members teaching in the application of TQM standards from the perspective of the university student.

2. David D.Dill study (2007): Quality Assurance in Higher Education-Practices and Issues-. This study deals with the concept of quality assurance in higher education and the practices under which academic standards are maintained to ensure the improvement of the academic achievement achieved by graduates of higher education. The study also examined the difference between internal and external quality assurance and the new forms of external quality assurance.

3. Abdel Latif Moghnef et al. (2012): Contribution to the Quality Assessment in Higher Education: The Case Study of the Faculty of Technology, Tlemcen, Algeria. The objective of this study is to provide an overview of the evaluation system, the concept of quality and explain its principles in management and TQM to how to continuously improve the quality of higher education in general by providing some methods for use in education to obtain good quality. The study found that the evaluation of the quality of the educational service needs accelerated improvements to ensure the quality of the graduates and the educational process.

4. The study of Saous Sheikh and Houari Mansouri (2018): The role of internal quality assurance cells in achieving the quality of training in Algerian higher education institutions according to the new guide to guarantee the quality of higher education, The study aimed to evaluate the quality of training at the University of Adrar as the most important fields referred to by the National Institute for Quality Assurance in the Algerian Higher Education Institutions, where the study found that the evaluation was below the average and recommended the need to pay attention and focus on the quality of the training to remedy the gap.

Research Methodology:

In this study, we adopted the analytical descriptive approach by describing the stages of establishing the quality assurance system in Algerian higher education and analyzing the evaluation of the scientific research to come up with recommendations to improve its quality.

To answer our questions, we split this work into three parts:

- 1) Quality, quality assurance definition: definition and evolution of concepts;
- 2) The self-assessment process;
- 3) Analysis of the evaluation results of the field of scientific research at the University of Ferhat ABBAS Setif -1-.

1) Quality, Quality Assurance Definition: Definition and Evolution of Concepts

1.1. History of Quality Movement:

The origin of "quality" as a concept is due to the period of industry and business development in the 20th century. However, people have always been aware of quality in various areas of life, but with the advent of mechanization increased attention to quality and quality control.

There are many scholars who have contributed significantly to what we understand today about the concept of 'quality'. Some of them are W. Edwards Deming, Joseph Juran, B. Crosby.

So, it is important to look at the evolution of the concepts in quality:

Table01: The chronology of quality movement

Pre -1900	Quality as an integral element of craftsmanship
1900-1920	Quality control
1920-1940	Inspection-based quality control
1940-1960	Statistical process control
1960-1980	Quality assurance/total quality control(the quality department)
1980-1990	Total quality management
1990-Present	TQM, Culture of permanent improvement, Quality in the organization

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

Source: Dr. Sanjaya Mishra, Quality Assurance in Higher Education: An Introduction, NAACs, Jun 2006

1.1. Defining Quality :

The meaning of quality may vary depending on the type of activity.

The British Standard Institution (BSI) defines quality as “the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs (BSI, 1991).

1.2. Quality Assurance:

Different definitions of academic quality have been used in the education system (Lazăr Vlăsceanu & al, 2004):

- ✓ Quality in the sense of Excellence and advancement: A traditional academic perspective, which refers to the high degree of excellence (usually a high level of complexity until the program is prepared, difficulty in student testing procedures, etc.) In order to reveal the true academic quality.
- ✓ Quality as an appropriate institution to achieve the goal: A concept that emphasizes the need to comply or conform with generally accepted standards such as those determined by the accreditation body or quality assurance, and focuses on the efficiency of operations in the enterprise or program in achieving stated and presented objectives.
- ✓ Quality in the sense of continuous improvement: through the search for permanent improvements, and emphasis on the responsibility of the institution of higher education to achieve the optimal use of its self-governing institution and its independence. Achieving quality is essential in the academic spirit, and academics are the most knowledgeable about quality.

The higher education system is more concerned with the concept of quality which is based on the principle of continuous evaluation throughout the life cycle of the system. Besides, quality assurance relates to education, research, publication, academic achievement, project development and all processes used in other processes by higher education institutions(Özer, M.& al,2010).

We can also define quality assurance as an all-embracing term referring to an ongoing, continuous process of evaluating (assessing, monitoring, guaranteeing, maintaining, and improving) the quality of higher education system, institutions, or programmes. As an organizing mechanism, quality assurance focuses on accountability, participation, information provision, and governance through an agreed and consistent process that is based on specific criteria (Lazăr Vlăsceanu & al,2004).

1.4. Why Quality Assurance Is Important In Higher Education?

The quality assurance system is the basis for the development of the performance of higher education institutions. The latter focuses on ensuring the quality, evaluation, monitoring, and improvement of the various activities. Its importance is highlighted by (Sanjaya Mishra, 2006):

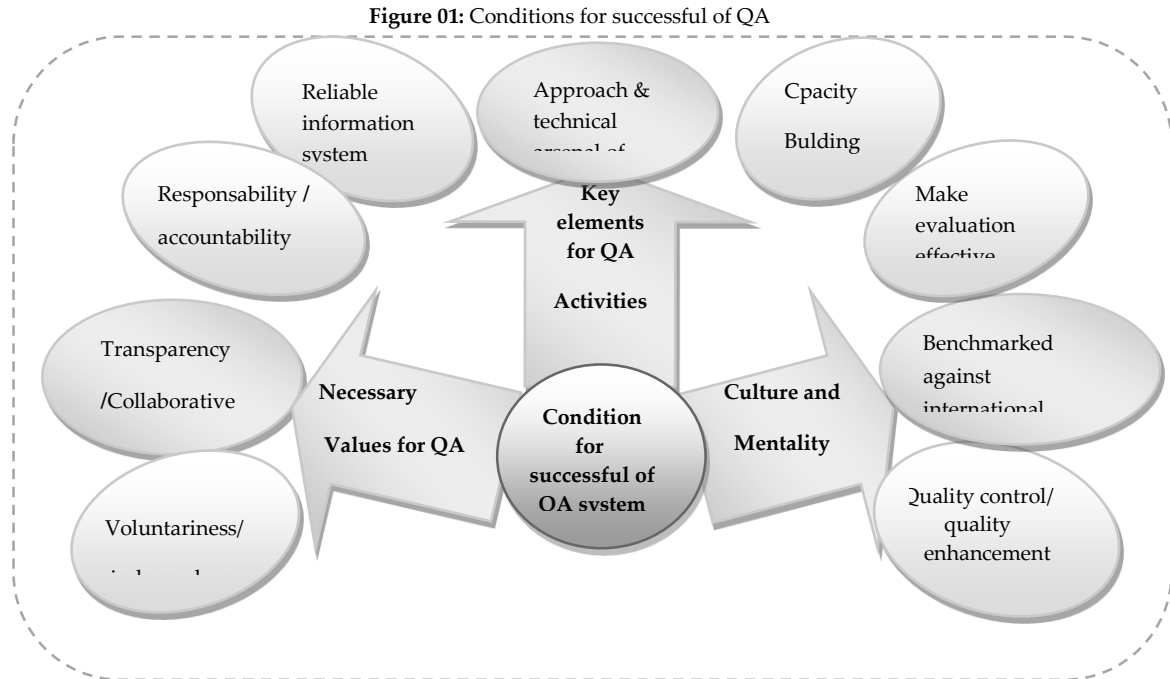
- ✓ Enhancing competition for higher education institutions and achieving the highest rankings in international classifications: With globalization and the development of information technology, the educational environment will be exploited through increased competition. In order to keep pace with development, higher education institutions must ensure their quality.
- ✓ Satisfaction of stakeholders: Students, parents and members of administrative and teaching bodies in higher education institutions have become more aware of quality assurance, and must, therefore, be achieved at all levels.
- ✓ Setting criteria for evaluation: Higher education institutions are always interested in setting their own standards and comparing them with international standards to achieve optimum quality.

§ (NAAC) National Assessment and Accreditation Council of the University Grants Commission (Government of India)

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

1.5. What Are The Fundamental Factors To Successful QA System?

In every higher education system, there are specific criteria for the success of the quality assurance system:



Source: developed by ourselves

As we see it in figure 1, the success of quality assurance system depends on the existence of specific mechanisms: quality improvement, quality control, and evaluation, and Total Quality Management, Backed by a high-quality culture.

2) The Self-Assessment Process:

2.1. Definition of the Self-Evaluation Process:

According to a glossary of terms of quality assurance Self-evaluation is a process through which an institution or an individual judge of the quality of process and other actions which he or she is responsible for (CIAQES,2016).

Self-assessment consists also of “comparing the references of the national quality reference (a set of objectives and values defining a fixed ideal state) to the actual practices of the institution for each of the activities in question (domains and domains). a reference often requires the implementation of several actions (criteria). Also, it is by evaluating its criteria that we appreciate the level of realization of a reference “(Mohamed LERARI, 2016).

Self-assessment is an essential part of internal quality management and assurance system, and also the starting point for external quality assurance.

2.2. Stages of Self-Evaluation process:

The steps of the self-assessment process can be summarized as follows (Nabil Bouzid and Zineddine Berrouche, 2012) :

- The first step is the production of basic data and information for each standard or criterion.
- The second step is analysis and evaluation.
- The third step, which concerns what should be done, is the report on the degree of compliance with standards and criteria.

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

2.3. Purposes of the Self-Assessment:

Self-assessment is considered the pillar of the quality assurance process it aims to (Herzallah.A, 2016): It makes it possible to verify the available information, the proofs or the indicators.

- It makes it possible to measure the difference between the actual situation and the ideal sought by the reference (the objective to be achieved). The interpretation of this difference constitutes the heart of the evaluation process.
- Self-evaluation is a step in a process of continuous improvement.
- It makes it possible to test the relevance of references and then improve the reference.

2.4. Flexible Methods of Self-Assessment:

The institution can establish a general framework for self-evaluation, but as the methodology evolves and institutional diversity increases, it needs to adjust its approaches so that self-evaluation is relevant and useful to the institutions.

Higher education institutions have different characteristics (the research sector, date of creation, specialized or multidisciplinary and the economic and sociological environment), the question arises: Are the methods used in the self-assessment valid for every institution.

In the United States, there are several examples of flexible approaches to self-assessment that have been introduced due to the increasing diversification of institutions. Some regional accreditation agencies, therefore, offer different options for self-assessment. The Central States Commission on Higher Education (CSCHE) has four main models of self-evaluation: the general model, the general model with a particular point of interest, the model of the chosen themes and the alternative self-assessment model (Youcef Berkane and Baghdad Benstaali, 2016).

The following table describes the benefits of two self-assessment models.

Table02: Flexible Approaches to self-evaluation

The alternative self-assessment model	The model of the chosen themes
<p>This option concerns accredited institutions. This latter may propose to use the alternative model, after having discussed it with the MSCHE (Middle States Commission on Higher Education), for the renewal of their accreditation. With the exception of institutions that apply for first accreditation or when it is the first renewal of this one, any other institution may request to use the alternative self-assessment model. Research universities are often those who use this self-assessment approach is best used to deal with a specific topic of institutional nature but focused on a current problem. The use of this model can also be linked to seminars or other institutions with specialized streams.</p>	<p>In the framework of this model, attention is focused on certainly selected domains, be they units or aspects of the institution, such as the evaluation of curricula. Compared to the general model, this more specifically targeted at certain areas which should, as far as possible, cover the entire school whose general aspects are, despite everything, less extensive than the themes chosen</p>

Source: http://www.ciaqes-mesrs.dz/presentation_suite.html,2016 (visited on 28 /11 /2018)

2) Analysis of The Evaluation Results of Scientific Research: Case Study University of Ferhat Abbas Setif -1-

2.1. Establishment Of The Quality Assurance System In Algerian Higher Education Institutions:

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

With the start of the Bologna project in the 2004-2005 academic year, higher education has identified many challenges, the most important of which is adapting to the new system. So it was necessary to introduce the quality assurance system as a key element in the LMD reform.

The quality assurance system has emerged since 2008 when the Ministry has organized an international conference on quality assurance.

In Algerian higher education, quality assurance system has been established by the following stages:

- In 2008, the Ministry of Higher Education organized an international conference on quality assurance, which focused on the possibility of applying quality assurance in Algerian universities.
- In 2010: the birth of two key organs:
 - NEC (National Evaluation Committee): Its creation was provided for in the law 08-06 of 23-02-2008, and the setting of its mission was well explained in the executive decree number 10-36 of the 21-01 - 2010 (Zinedine Barouche and Berkan Youcef) which is the evaluation and control on quality assurance;
 - CAQAHE (Committee for the Application of Quality Assurance in Higher Education), the creation and designation of its members were by the decree of 31-05-2010. Its missions are to help implement and develop quality assurance mechanisms, carry out quality assurance activities evaluation and self-evaluation of programs and institutions in order to prepare for its accreditations at national and/or international level (CIAQES,2011);
- In 2012-2013: Formation of quality assurance officials
Following the establishment of quality assurance cells, the Ministry has devoted its efforts to training quality assurance officials and members of the CAQAHE;
- Establish a national reference of quality assurance includes norms and criteria Compared to international standards. The first reference was developed by the quality assurance managers in 2014, which covers all the criteria contained in the basic fields of formation, scientific research, university infrastructure, governance and life at university, focusing on three other fields, given their importance in the national context: the university's relationship with the environment and cooperation with the environment.

Table 03 : Components of the National Reference for Quality Assurance

Domain	Fields	References	Criteria	Proofs
Formation	7	23	49	108
Scientific research	3	17	32	55
Governance	5	27	53	181
Life at University	4	14	25	71
Infrastructure	5	17	19	38
Relationship with the environment	3	11	19	40
Cooperation	4	14	22	70
Total	31	123	219	563

Source: <http://www.ciaqes-mesrs.dz> (visited on 28/11/2018).

In reviewing the contents of this reference for Quality Assurance, we note that the Ministry has given great importance to university governance to ensure the participation of different parties in the decision-making of the institution, the field of scientific research consists of 3 fields (RNAQES,2016):

✓ **Field R1:** Organization, structuring, and development of research: it is for the institution to create the bodies responsible for the development of research. This field contains 9 references defined as follows :**R11:** The institution defines its research priorities and implements the adapted means, **R12:** The institution has steering structures and monitoring of research, **R13:** The institution organizes a strategic reflection for an evaluation internal research, **R14:** The institution organizes research according to its priorities, **R15:** The institution develops research that meets the needs of its environment, **R16:** The institution encourages the dynamism of research and motivates its faculty, **R17:** The institution develops a research training policy and by research, **R18:** The institution promotes access to the necessary

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

documentary resources looking, and **R19**: The institution ensures a watch function on the methodological evolutions, science, and technology.

✓ **Field R2**: Relationships and scientific partners: it is for the institution to define the partnership modalities between the institution and the various partners. This field contains 4 references: **R21**: The institution internally oversees the pooling of research activities, **R22**: The institution implements a strategy of privileged partnerships in research at the regional and national levels, **R23**: The institution ensures development in research, and **R24**: The institution has a communication and dissemination policy of his scientific output.

Field R3: The valuation of research: it is for the institution to put in place incentive mechanisms the promotion of research. This field contains 4 references which are : **R31**: The institution pursues a policy of valuation and transfer of results of research, **R32**: The institution contributes to the development of intellectual property, **R33**: The institution promotes the creation and incubation of companies in connection with the search, and **R34**: The institution ensures the dissemination of scientific culture.

3.2. Analyzing the results of the self-evaluation and defining development activities

In our evaluation work, we use the SWOT analysis grid to examine the internal and external factors related to the field of research within the university (Ferhat Abbas).

So, in their research orientation, the actors will have a clear vision of the situation, which will offer them the opportunity to maximize the potentials of the forces and opportunities and to minimize the negative impact of the threats and weaknesses that weigh on the quality of research

To do this we have to perform two types of diagnosis:

1-An internal diagnosis: which aims at identifying the assets, and the failures of the scientific research within the university allowing to detect the facilitating and disabling factors?

2-An external diagnosis: which aims to detect the opportunities and the threats of the environment hindering the capacities to answer the socio-economic needs?

The comparison of the two diagnoses will enable us to better formulate the strategic orientations of scientific research and to identify the most appropriate means.

a. SWOT Analysis of Research:

The table below summarizes the strengths, weaknesses, opportunities, and threats of research:

Table 04: SWOT analysis for research

Strengths	Weaknesses
<p>A. Human resources (note: 4)</p> <ul style="list-style-type: none"> - Number of researchers (teachers and/or Ph.D. students) - Teacher-researchers from various schools (horizons). <p>B. Material resources (note: 3)</p> <ul style="list-style-type: none"> - An abundance of documentary resources - Quality scientific equipment - Presence of 40 labs. And research unit -The existence of a research infrastructure <p>C. Strategy (note: 3)</p> <ul style="list-style-type: none"> - The existence of a strategic vision for development from research to university - Growing demand for the opening of doctoral 	<p>A. Organization and management (note: 5)</p> <ul style="list-style-type: none"> - Lack of planning research activities - An absence of a strategy to diversify the sources of financing of the laboratories <p>B. Human Resources (note: 4)</p> <ul style="list-style-type: none"> - Lack of training for new researchers - No affiliation of the teacher-researchers to the laboratories - Insufficient involvement of researchers in their research projects <p>C. Means (note: 3)</p> <ul style="list-style-type: none"> - locals unsuitable for research

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

<p>training.</p> <p>D. Thematic and research axes (note: 2)</p> <ul style="list-style-type: none"> - Disciplines very favorable to research - Developed topics related to reality. 	<ul style="list-style-type: none"> - Inexistence of technological platforms. - Language of research <p>D. research Results (note: 3)</p> <ul style="list-style-type: none"> - Lack of visibility of research results - The absence of applied research - Lack of publications for the laboratories
Opportunities	Threats
<p>A. Environment (note: 5)</p> <ul style="list-style-type: none"> - Favorable socio-economic environment - the request appears for research and development <p>B. Means (note: 4)</p> <ul style="list-style-type: none"> - Internships, fellowships, and research projects - Big budgets allocated to research - The existence of TIC resources <p>c. Regulatory Framework (note: 3)</p> <ul style="list-style-type: none"> - Favorable regulatory text. 	<p>A. Human Resources (note: 4)</p> <ul style="list-style-type: none"> - The Retirement of confirmed researchers <p>B. Environment (note: 4)</p> <ul style="list-style-type: none"> - Lack of local, national collaboration. - Social marginalization of the university. - Social culture of the assistantship. <p>C. Means (note: 3)</p> <ul style="list-style-type: none"> - Exhaustion of public funding <p>D. Ethics (note: 2)</p> <ul style="list-style-type: none"> - Plagiarism

Source: Developed by ourselves according to the 2017-2019 action plan (formation and research), quality assurance cell of the University Ferhat ABBAS Setif 1.

b. Analysis of scientific research according to the national reference of quality assurance

The following table summarizes the calculated scores of the references (4 categories) and the number of criteria and proofs not applied for each reference. It informs us about the urgency and the priority of the actions to be undertaken according to the references.

Table5: Identification of priority activities of scientific research

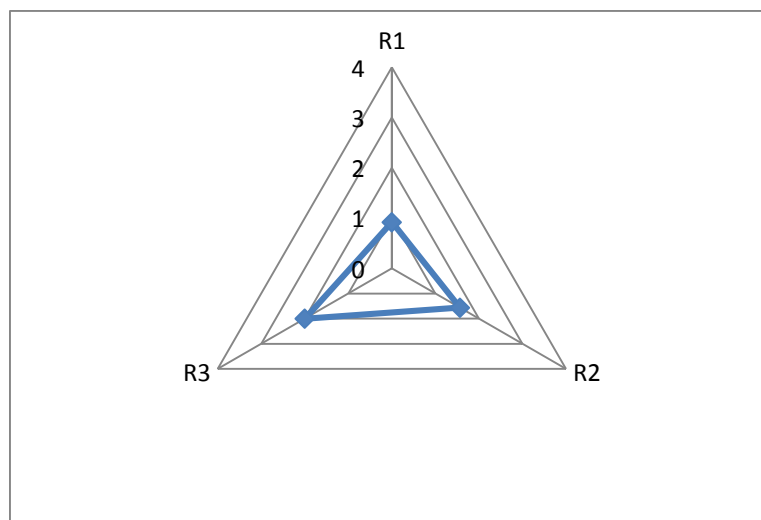
Domain	Field	Calculated points for references				Nbr of unapplied criteria	Nbr of unapplied proofs
		cp<1	1<cp <2	2< cp <3	3<cp <4		
Research	R1	6	1	2	0	7	10
		%67	11%	22%	0%		
	R2	3	0	0	1	2	4
		75%	0%	0%	25%		
	R3	4	0	0	0	4	7
		100%	0%	0%	0%		
Total	3	13	1	2	1	13	21
		81%	4%	7%	8%	0%	0%

Source: Developed by ourselves according to the 2017-2019 action plan (formation and research), quality assurance cell of the University -Ferhat ABBAS - Setif 1.

- The third field R3(The valuation of research) got the last order between the other two fields, where all of its references have a score of less than 1, which is a poor assessment.
- The second field R2 (Relationships and scientific partners): most of its references have a rating of less than 1 (75%), and only one reference has got an above average rating.
- In the first field R 1(Organization, structuring, and development of research), most of its references were rated below average and only two were rated higher than average.
- The result of the evaluation shows that the number of criteria not applied in the domain of Research is 13 of 32 the total of criteria and 21 unapplied proofs of 55 proofs.

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

Figure 02: Evaluation of the fields comprising the field of scientific research



Source: Developed by ourselves according to the data of quality assurance cell, University -Ferhat ABBAS - Setif 1

Field R1: Organization, structuring, and development of research

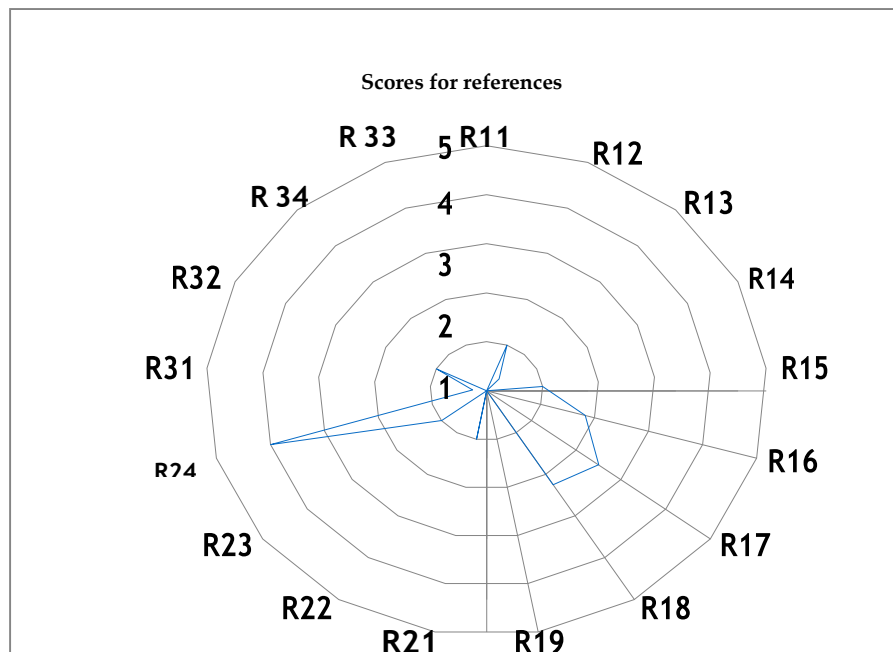
Field R2: Relationships and scientific partners

Field R3: The evaluation of research

The study found that the first field: organization, structuring, and development of scientific research obtained an assessment of 0.98 of 4. The second field: Relationships and scientific partners get an evaluation of 1.69, the third field :evaluation of research scientific gets a rating of 2 of 4, Average and below average.

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

Figure 03: The Radar representation of the calculated scores for the references (Research)



Source: Developed by ourselves according to the 2017-2019 action plan (formation and research), quality assurance cell of the University –Ferhat ABBAS - Setif 1.

This representation informs us about the state of scientific research at the university. In fact, many activities should be launched in the future to ensure that its quality is improved (See Annex 1).

Conclusion:

In light of the above, it can be said that the field of scientific research is one of the most important areas included in the new reference to quality assurance, which higher education institutions should give to the necessary attention, whether it is an evaluation or ways to improve it.

Therefore, the process of self-evaluation of scientific research is a tool for controlling and guiding the strategic directions of higher education institutions, as well as a tool for qualifying them to enter to the national and international competitiveness and to meet their asks.

Through this study, we will try to make the following recommendations:

- The field of scientific research should be activated and improved by developing a clear and stated implementation plan that will ensure the sustainability of the self-assessment process in the field of scientific research.
- The need for a structural organization of quality assurance cells, in addition to granting more autonomy to the cell to carry out assessments, auditing, and control.
- The need to expedite the development of the project of the university institution under implementation as it ensures the implementation of the strategy of the University of Setif in the field of training and scientific research in particular.
- The need for a communication policy that ensures the dissemination of the scientific product by establishing a cell or a communication department at the University.
- More and more conformity, standardization and harmonization of Universities to ensure a minimum level of quality in institutions and programmes.
- Measure the quality of education, training of students, prestige of the faculty members and the quality of research without relying on surveys and university data submissions.

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A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

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APPENDIX:

Appendix 1: Detailed analysis of the research according to the National Quality Assurance Reference System (RNAQES)

Désignation	Code	Acteurs	Applicabilité/ Application		Pertinence			Notes		Commentaires
			OUI	NON	A	B	C	N _a	Ncrit	
Domaine	R									
Champ	R1	Dirigeants	Oui		A				0,9907 4	
Référence	R11	Dirigeants	Oui		A				0	C'est une recherche libre non orientée vers une recherche utile
Référence	R12	V. R. P.G. + Labos. + Chefs de projets + Comités et Conseils scientifique	Oui		A				1	Existantes et non opérationnelles
Référence	R13	Conseil scientifique de l'univ. + Conseil d'admini. + CAQ + Equ. De Labos	Oui						0,3333 3	pas de système d'évaluation interne
Référence	R14	Dirigeants	Oui						0	Services de soutien non mis en place
Référence	R15	Dirigeants de la recherche	Oui		A				1	peu de conventions spécifiques/nbre

A SELF-ASSESSMENT APPROACH TO THE SCIENTIFIC RESEARCH SYSTEM IN ALGERIAN HIGHER EDUCATION INSTITUTIONS: CASE UNIVERSITY OF SETIF -1- PP (1-13)

							convention cadre
Référence	R16	Dirigeants + CATI	Oui	A		1,8333 3	
Référence	R17	Dirigeants	Oui	A		2,5	
Référence	R18	bibliothèque centrale + Bibliothèques des facultés et instituts + bibliothèque numérique	Oui	A		2,25	
Référence	R19	Dirigeants	Oui	A		0	Pas de structure de veille technologique
Champ	R2	Rel. Ex. + V.R. P.G. + Entités de recherche + C.S.	Oui	A		2	
Référence	R21	V.R. P.G. + Entités de recherche + C.S.	Oui	A		1	Limité + contraintes administratives

Référence	R22	Rel. EX. + BLEU + V.R.P.G + Entités de recherche + Facultés et instituts	Oui	A		0	procédures inexistantes En cours de réalisation
Référence	R23	Rel. EX. + V.R.P.G. + Facultés et instituts + Entités de recherche + C.S.	Oui	A		1	Conventions non suivies d'opérationnalité
Référence	R24	Rectorat + C. Admin. + C.S.U. + entités de recherche + Facultés et instituts	A	A		4	Pas de sensibilisation pour publier dans des revues connues
Champ	R3	Entités de recherche + Rel. Ex.+ CATI+ BLEU + V. R. Pédag. + V.R.P.G	Oui	A		0,25	
Référence	R31	Rel. Ex.+ V. R. Pédag. + V.R.P.G	Oui	A		0	l'institution doit s'impliquer dans l'élaboration des programs/ Pas de formation spécialisée
Référence	R32	CATI + V.R.P.G + Entités de recherche + Rel. Ex.	Oui	A		1	mise en place récente
Référence	R33	Maison d'entrepreneuriat + V.R.P.G + CATI	Oui	A		0	Dispositif non fonctionnel
Référence	R34	Rel. Ex. + V. R. Planif. + V.R.P.G.		A		0	Pas d'ouverture au grand public

Source: 2017-2019 Action Plan: formation and Research, Farhat-ABBAS University, Setif 1.