Competency Ice-Berg Model

- A quality view to the university of Tlemcen -

Senhadji Hassane[*], Benbouziane Mohammed[**]

Abstract:

Higher education competencies management is a key factor to move forward with an emerging economy such as Algeria. It encompasses several components for the enhancement of competency consist of knowledge, skills, and abilities. This research paper is intended for the purpose of introducing the Iceberg competency model and how It can be applied on Algerian Higher Education System from a quality view. This model consists of displaying the hidden side of competencies and that what we see in a competence is just the smallest part of it. The university of Tlemcen will be taken as a case study. Therefore, higher education institutions need to establish an evaluation system for the competency of their lecturers. The system will serve as a benchmark in monitoring their competency.

Keywords: Ice-berg model, Competency, Higher education, University of Tlemcen

JEL Classification: J24, M12, O15.

ملخص :

تُعدّ إدارة كفاءات التعليم العالي عاملاً رئيسياً للمضي قدماً في الاقتصاديات الناشئة مثل الجزائر. ويشمل عدة مكونات لتعزيز الكفاءة المكونة من المعرفة والمهارات والقدرات السلوكية. تهدف هذه الورقة البحثية إلى تقديم نموذج جبل الجليد للكفاءات وكيفية تطبيقه على نظام التعليم العالي الجزائري من خلال وجهة نظر نوعية. يرتكز هذا النموذج أساسا على إظهار الجزء المخفي من الكفاءات ويوضح أن ما يظهر من الكفاءة لا يمثل سوى الجزء الأصغر منها. سيتم التطرق للنموذج من خلال دراسة حالة جامعة تلمسان. لذلك، تحتاج مؤسسات التعليم العالي إلى إنشاء نظام تقييم لكفاءة أساتذتها. سيكون النظام بمثابة معيار في مراقبة كفاءتهم

الكلمات المفتاحية : نموذج جبل الجليد، الكفاءة، التعليم العالي، الجزائر.

[*] University of Tlemcen, Algeria, hassane.senhadji@univ-tlemven.dz, **(Coresponding author)**

[**] University of Tlemcen, Algeria, mbenbouziane@yahoo.fr

1. Introduction :

Thereis no doubt that Human Resources Management (HRM) occupy a great importance in managing organisations, as it is one of the most important functions of its success in establishing an effective program in human resources investment used in production, and there is no secret that efficiency and performance to achieve organisation's strategic goals depend directly on the quality of its human resources.

True enhancement is not only in developing buildings or machinery or advanced technologies, but in developing the human resource capable of dealing with the management of other resources and invest in a product, therefore the most modern administrative trends had confirmed the importance of human resources and considering its scarcity as a capital, in particular, the competencies, experience and skill.

The business world is changing; the programs offered in higher education institutions should also evolve. We must anticipate the needs of business, be innovative, and better target gaps in skills to fill to ensure a carrier future.

Algerian universities must raise the question of quality of their competencies as a key issue and start thinking about changing the traditional methods, "in many of our universities, we, unfortunately, still practice today an education as it was conceived last century: the student memorizes what the professor said, while his criticism and his own intelligence are as dormant" (Bernard, 2001)

After this brief introduction, some questions are worth asking and require reflection, some of them are as follow: What is a competence? What are the new trends in dealing with competencies? What is the context of the Algerian higher education regarding competency management?

1. Literature review

The following section provides some information concerning the definition of competency and iceberg model.

2.1. Competency

Whenever we talk about skills, knowledge, attitude or behaviour. We are referring to quality. This word is regarded as "competence". The word of "competence" comes from the Latin word "competere" which means "competent" that is a person's ability to possess adequate skill, knowledge, attitude or behaviour to perform certain activity. Thus quality, ability and skills to do some certain activity competently.

The word competency was initially discussed and assessed by David McClelland in the early 1970s as a real features of individuals which they possess such as skills, knowledge and ability of worker performance which can be predicted, measured and assessed. Although, the first research of competency that came out with human resource development was done by McLagan in 1989 who believed competency is an area of knowledge, attitude and skills of individuals to produce vital key output.

Competence has been long understood as a person's ability or capacity to do a job. It was devised in the 1970s by the US Company McBer to identify the specific personal characteristics which resulted in effective and/or superior performance.

the competencies concept is multi-faceted concepts, differed in terms of perception and the applicable areas and proposed, and has evolved considerably in the last two decades, it has become difficult to identify and limit the joint definition to the concept, but we can say that this concept is linked to working situations we cannot talk about efficiency

only in the framework of the practical, and most of the different definitions, although they are involved in the components or resources problem and overall in the classic triple: knowledge, practical knowledge (Know-how) and behavioural knowledge (Soft skills)1.
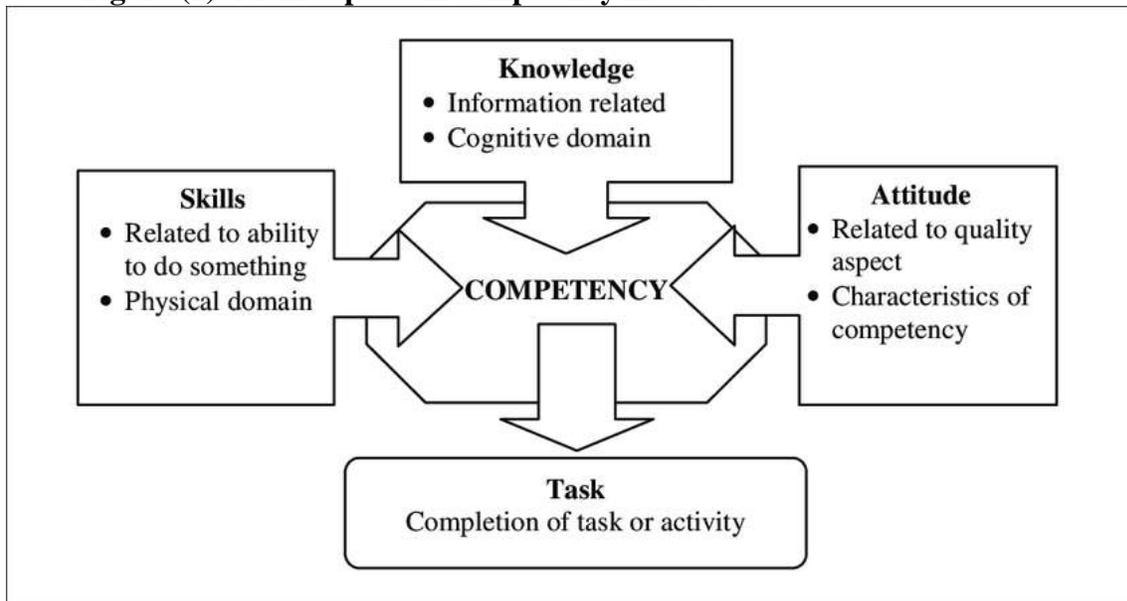
For more than three decades, the term 'Competency' is defined by different researchers with different perceptions and perspectives and in different ways. According to McLagan and Suhadolnik, competency can be defined as a centre for knowledge, attitude and skills that are vital in producing key outputs(McLagan & Suhadolnik, 1989). Likewise, Boyatzis defined competency as the capability and ability of individual skills, knowledge and behaviour to complete the task assigned to them(Boyatzis, 2008). While Lee defined competency as set of related skills, abilities knowledge and behavior which can influence the main aspect of workers job(Lee, 2009). Another researcher, Abel conceptualised competency as to apply some knowledge into practice within a specific context(Abel, 2008). In addition, according to Sulaiman et al, competency refers to the workers or individuals or practitioners performance as related to the organisational performance in doing task or job that can be evaluated or measured (Sulaiman, Salleh, Mohamad, & Sern, 2015). Taken together, competency in the context of current research is defined as the ability of an individual to apply the knowledge, skills and attitude to complete the given task that can be evaluated.

According to the Human Resource Management Framework (HRMF) of the United Nations Industrial Development Organization (UNIDO), competency encompasses a combination of knowledge, skills and behaviour that are practiced for self improvement (UNIDO, 2015). Similarly, Salleh (2012) defined competency as set of skills, knowledge, and behavior, which characterize better performance in every aspect of an individual.

According to Selvarajan and Candy (2006), from the management perspective, competency refers to a combination of resource and ability. On the other hand, the human resource management perceives competent as the ability of individuals to complete the tasks assigned to them. The main purpose for organization to apply the concept of competency is to facilitate the process of evaluating the suitability and expertise of employers in completing assigned tasks. Basically, competency includes three important aspects which are knowledge (cognitive), attitude (affective) and skills (psychomotor) that are combined to solve certain assignments (UNIDO, 2002). There is a fourth aspect to a competency is task. The latter is a job situation where an employee combine the 3 former aspects to perform an activity. That aspect is very important since all peoples are competent in some areas and incompetent in others. Figure 1 illustrates the competency model that is based on the four aspects that can be used by organizations.

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1 The words between brackets are a translation into frensh.

Figure (1): Main aspects in competency model

Knowledge
- Information related
- Cognitive domain

Skills
- Related to ability to do something
- Physical domain

COMPETENCY

Attitude
- Related to quality aspect
- Characteristics of competency

Task
Completion of task or activity

Source: (UNIDO, 2002).

In the context of higher education, competency analysis is a very important requirement. This is supported by Chih et al (2003) who stated that in the effort to achieve the objective of technical and vocational education and effective training, an indispensable aspect that needs emphasis is the analysis of content for competency in education and training. This is to ensure the standard and other matters related to measurement of competency can be identified (Salleh, Khalid, Sulaiman, Mohamad, & Sern, 2015).

According to the UNIDO HRMF, the Organization's human resource system is underpinned by a Competency Framework, where a competency is defined as a "combination of skills, knowledge and behaviors that leads to effective performance on the job, be it at Headquarters or in the Field Offices, and is therefore important for the success of the Organization in achieving its strategic goals, as well as the success of individual staff members."

Furthermore, a competence needs a specific framework to support goals achievement and effectiveness as well as strategic direction.

2.2. Competency Ice-Berg Model

Figure 2 shows the Iceberg competency model, one of the competency models, based on three main aspects namely skills, knowledge and attitude and. It is also one of the models that is frequently adapted and modified at the United States organisations for establishing competency model.

Figure (2): Iceberg competency model

Source: the authors based on Iceberg competency model of MIT Careers, 2005.

The iceberg model for competencies takes the help of an iceberg to explain the concept of competency. Similarly, a competency has some components which are visible like knowledge and skills but other behavioural components like attitude, traits, thinking styles, self-image ... also called soft skills.

In other words, it can be helpful to think of competencies in terms of an iceberg. Technical competencies are at the tip - the portion above the waterline that is clearly visible (and therefore easier to assess). The soft skills are below the waterline - they are more difficult to assess, and often harder to develop. Behavioural competencies can be understood as manifestations of how a person views him or herself (self-image),h ow he or she typically behaves (traits), or motives him or her (motives).

The ice-berg model relies with the Pareto-principle (better known as the "80/20-Principle"). This principle was recognized by the Italian economist Vilfredo Pareto at the end of the 19th century and first published in 1897. It basically says that, out of a given group of elements, already 20% of them will yield 80% of the results (PARETO, 1897).

Figure (3): Pareto principle: Performing 20 % of the effort will lead to 80% of the results
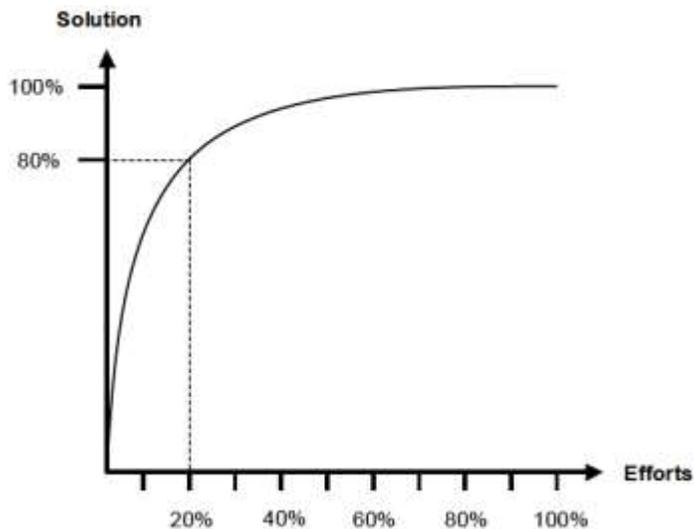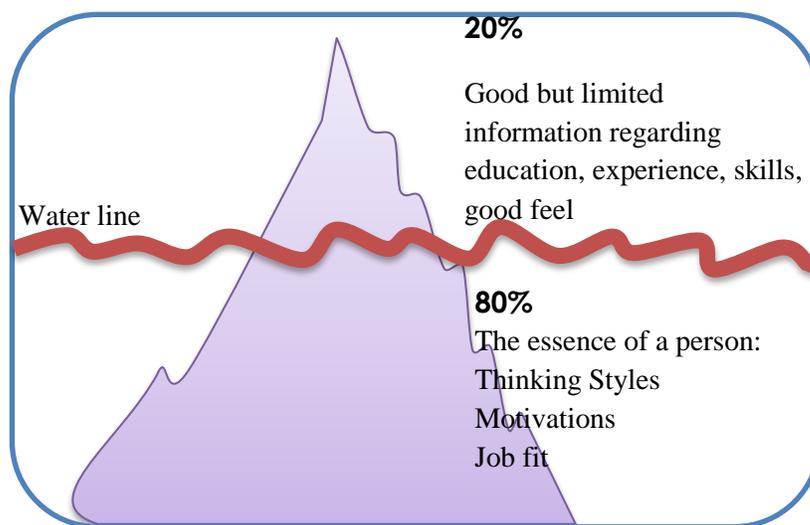

Source: (PARETO, 1897).

In other words, 80% of your competencies are responsible for the 20% that can be explicitly observed in a work situation. For higher education institutions, they can focus on the fact that teachers can achieve 80% of the desired results by only 20% of teachers competencies. Hence, in their training plan, the institution has to define the key competencies that should be developed in order to propose adequate trainings to their teachers.

The iceberg model for competencies takes the help of an iceberg to explain the concept of competency. An iceberg which has just one-ninth of its volume above water and the rest remains beneath the surface in the sea. Similarly, a competency has some components which are visible like knowledge and skills but other behavioural components like attitude, traits, thinking styles, self-image, organizational fit etc are hidden or beneath the surface.

Let us take a look at the different components of the model:
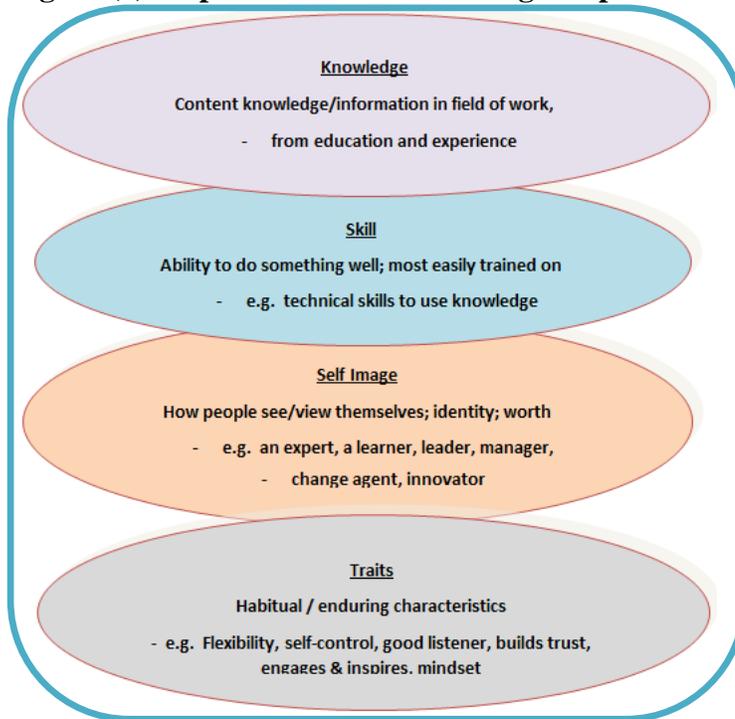**Figure (4): Pictorial representation of the iceberg model**

20%

Good but limited information regarding education, experience, skills, good feel

Water line

80%
The essence of a person:
Thinking Styles
Motivations
Job fit

Source: the authors based on Iceberg competency model of MIT Careers, 2005.

A brief explanation of the Iceberg model components is displayed by the figure 5 below:

Figure (5). Explanation for the iceberg components

Knowledge
Content knowledge/information in field of work,
-    from education and experience

Skill
Ability to do something well; most easily trained on
-    e.g. technical skills to use knowledge

Self Image
How people see/view themselves; identity; worth
-    e.g. an expert, a learner, leader, manager,
-    change agent, innovator

Traits
Habitual / enduring characteristics
- e.g. Flexibility, self-control, good listener, builds trust,
engages & inspires. mindset

Source: (MIT Careers, 2005)

So, is there a relation between the competencies which are above the surface and those which lie beneath? In the book Competence at Work Models for Superior Performance, the authors Lyle M. Spencer and Signe M. Spencer explain that a behaviour is incompletely defined without intent "*The aspects of competencies which lie below the surface like attitude, traits, thinking styles etc directly influence the usage of knowledge and skills to complete a job effectively*" (Spencer, Lyle M; Spencer, Phd Signe M, 2008).

In complex jobs, the behavioural aspects, motives and traits become more important than the skills and knowledge required to do the job. Think of a soldier at the war front, he knows how to use the weapon he is holding, but thinks that the war is unjust and refuses to fire. In organizations, senior level hiring is therefore a time consuming and elaborate affair as it becomes necessary to establish the alignment between the organizational and individual motivation and aspirations. Developing the two levels of competencies also takes different routes. The visible competencies like knowledge and skills can be easily developed through training and skill building exercises however the behavioural competencies are rather difficult to assess and develop. It takes more time and effort intensive exercises, like psychotherapy, counselling, coaching and mentoring, developmental experiences etc.

In the traditional method of hiring, most of the organizations looked at just the visible components of competencies; the knowledge and skills, believing that the

behavioural aspects can be developed through proper guidance and good management. However, with major shifts in the conventional methods of people management, the hiring process has also undergone a change therefore a lot of emphasis is being put on the hidden behavioural aspects as well to make a sound decision. Hence, a complete picture regarding the competence of a person consists of both visible and hidden aspects and it becomes necessary to understand both to arrive at identifying the best man for a job.

The higher education institutions in Algeria suffer from this symptom. Recruitment is managed by a rigid regulation not allowing institutions to recruit the best fit for the open position. The cause is that the actual regulations don't give tools to measure all aspects of a competency, especially the hidden part of it.
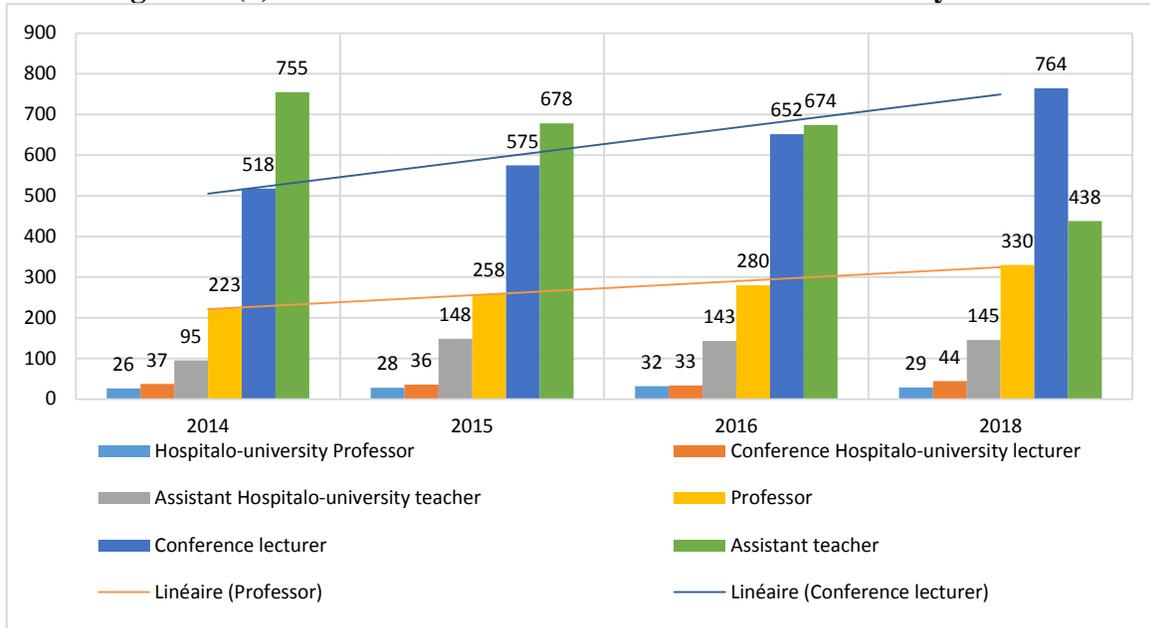
2. Case of the university of Tlemcen

Algeria as developing country in the world, needs to have higher education competencies for educational development and socioeconomic advancement that would lead to egalitarian society full of opportunities. In order to be among the successful countries of the world, higher education institutions need to provide competent teachers with diverse technical know-how and advanced skills to meet the challenges of real time in higher education institutions (Ismail & Mohammed, 2015). A lot of challenges have been taking place in the world of work including Algerian higher institutions (Paloniemi, 2006). This has resulted in the need for managing, continuous learning and updating competencies of employees or teachers across all ages. Therefore, competency needs are categorized in many dimension of life endeavour such as organisational competency, thinking competency and application competency possessed by teachers in order to perform a task effectively and efficiently. It is more valuable for teachers to develop and improve their work ability, capability and Skills. Lack of competency in the higher institutions can bring more challenges which required new ways to accomplish teaching and learning processes (Salleh, et al., 2015). Therefore, it is understandable that the challenges occur in different ways usually affect the institutions worldwide specifically Algerian higher institution. In order to minimize these unconditional challenges, the competency framework need to be restructured.

3.1. Academic staff evolution at the university of Tlemcen

Regarding the university of Tlemcen, and in order to have an overview of its teaching competencies, let's take a look to its teaching staff evolution.

Figure 6 will show the evolution of its teaching staff along 4 years: 2014, 2015, 2016 and 2018:

Figure (6): Teachers evolution at the university of Tlemcen

Source: by the authors based on data from human resources department at the university of Tlemcen, 2019

From the graph, we can see the evolution of the professors and conference lecturers in the trend lines coloured with orange and blue respectively. If we want to analyse this trend, we can say that there is competency development of the academic staff at the university. The number of professors jump from 223 in 2014 to 330 in 2018 with a rate of 148 %. This progression is significant and generated by the conference lecturers habilitation [2] who were promoted to professors. This promotion signify that teachers competencies were developed especially research competencies by producing more papers and conference communications.

3.2. The ranking of the University of Tlemcen

On another hand, the university of Tlemcen, it is working to ensure quality in its different organisation chart levels. To show its quality, let's take a look to its ranking. We tooked the Times Higher Education (THE) ranking and UniRank to do so.

3.2.1. Times Higher Education (THE): the reason behind this choice is that the THE ranking is considered as one of the most reliable sources in classifying higher education institutions around the world. Moreover, there exist some of the scholarship funders orgnisations who do not accept to offer any grant to study at a university unless it is ranked at the THE. The THE World University Rankings, founded in 2004, provide the definitive list of the world's best universities. THE carefully balanced and comprehensive methodology was developed after more than a decade of working in consultation with the world's leading universities, and builds on their team's deep understanding of what makes a university truly world class (THE, 2019). It is important to highlight that, in this paper, we focused on 2 ranking types:

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[2] The habilitation is a promotion practice adopted by the Algerian HE system to enable teachers the promotion from a grade to another. To be accepted in an habilitation, the academic staff should submit a whole folder of all his academic work and scientific production since his last promotion. After examination from an ad hoc national committee, if they judge the teacher's work valuable, the declare him a professor.

*a. Young University Rankings***:** According to this classification, the university of Tlemcen is ranked 201-250 in 2018. This ranking cover the world's top universities under 50 years old. It provides a glimpse into the future, showcasing not those institutions with centuries of history, but the rising stars that show great potential.

In that very new ranking, the University of Tlemcen was on the top (1st place) before the university of M'sila and Constantine 1 (2nd and 3rd place respectively).

*b. World University Rankings***:** the university of Tlemcen is ranked 801-1000 in 2018 among the world wide best universities.

Below, a detailed criteria composition used to rank all the universities around the world, accompanied by the university of Tlemcen indicators. These indicators measure the competency of the university in different higher education areas:

Table (1). Criteria used to rank the university of Tlemcen

Criterion	2017	2018
Ranking	>800	801-1000
Overall	8,3—18,5	15,6–21,4
Teaching	21,7	37,1
Research	10,1	11,8
Citations	4,5	4,8
Industry Income	32,1	31,9
International Outlook	39,1	40

Source: (THE, 2019)

3.2.2. UniRank onother ranking organisation: In 2021, The Australian ranking website UniRank (UniRank, 2021) published the Algerian University Ranking of 91 Algerian higher-education institutions meeting the following UniRank selection criteria: 1. being chartered, licensed or accredited by the appropriate Algerian higher education-related organization 2. offering at least four-year undergraduate degrees (bachelor degrees) or postgraduate degrees (master or doctoral degrees) 3. delivering courses predominantly in a traditional, face-to-face, non-distance education format.

3.3.   Competencies and quality management at the university of Tlemcen

MEGNOUNIF[3] *et al* has conducted a survey in the faculty of Technology, at the university of Tlemcen, in order to assess its quality management. From the different responses to the 02 established questionnaires, they propose to summarize the results in order to provide solutions to issues, judged negative by respondents. In summary, the list of significant points regarding teachers' competencies is as follows:

3.3.1. The positive points for teachers

• Teachers know how and when to contact the administration for their problems

- Teachers establish objectives for the course taught.
- Most of the teachers have a teaching experience of 5 to 10 years
- The majority of teachers respect the schedueld's hours.
- Good communication between the student and teacher outside the classroom.

3.3.2. The negative points for teachers

- Absence of coherent and transparent system assessment and reward.
- A demotivating work environment.
- The difficulty in applying newly acquired information and techniques in teaching

3.3.3. The needs

From this summary of the results obtained from the questionnaires, the main needs are as follows:

- Effective administration.
- Coherent evaluation system for teachers.
- Competent teacher.
- Effective library.
- Availability of teaching materials.
- Strengthening university-industry relationship.

3.3.4. Suggestions

After their analysis, the authors propose several solutions. Regarding teacher's competency, they suggest:

a. Mandatory continuous training

All teachers need ongoing training throughout their working lives. Initial training needs to be updated during the career knowledge and professions with particularly important consequences for professional courses.

Continuous training is recognized as a fundamental component of the teaching profession. The training should focus according to the iceberg model on the hidden part in order to maximize the results in term of performance.

b. Best teaching practices

Teacher training, which should provide best practices, needs to feed on search results. To acquire "*best teaching practices*", it is essential to give young teachers specific guides, efficient know-how in daily action: The have to know what "works" and what "does not work", as many markers that will allow them to use the best of their pedagogical freedom, which are examples and recommendations, not requirements on standardizing practices (Megnounif, et al., 2013). We quote here the Peter Drucker expression when he said: "If you can't measure it, you can't improve it" and the other one when ha announced that "What gets measured gets managed"

In order to stress out on evaluating teachers, it is proposed to establish *Coherent evaluation system* through an office guided by inspectors with a great experience in the field of education that allows evaluating, monitoring and observing the activity and effectiveness of the pedagogical action, which carry every 5 to 10 years. This procedure will reward teachers who do their work with quality.

When applying these suggestions, the use of the iceberg model will be very useful. It will allow decision makers and training conceptors to focus on the key competencies smartly to gain time and effort, and get more results to the desired goals. For instance, the trainings could contain some communication games in order to learn solving problems (Thinking styles) throughout team working (Team player competence) by communicating and understanding each other (interpersonal skills), encouraging them to copy and repeat what they have learned with their students (Good practices transfer).

3. Conclusion:

Competencies are not about being "competent" or "incompetent". Everyone has strengths in certain areas–skills, knowledge and abilities that they have developed over time. The iceberg model clear the different part of a competence and put in evidence the hidden and the most important part of it. The actual Algerian higher education regulation do not allow to measure and reward teachers properly, thus, a lot of behaviours and decisions has to be revised.

Competencies are not a tool to be used for evaluating people for layoffs. Competencies are only a way of talking about what helps people get results in their jobs. What matters is performance– being effective and meeting job expectations. Talking about Performance and its key indicators will be addressed   in a further paper.*After all, Competencies management are about finding the best "fit" between the job and the person.*

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