Higher Education Curricula in Algeria: Indicators of Fragility and Means of Improving their Quality. The case of Psychology, Education and Orthophony[*]

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Abstract

This paper deals with the current status of higher education curricula in Algeria, taking psychology, education and orthophony as examples. It aims at revealing the extent and symptoms of fragility of curricula in these fields, and proposing the most effective ways of protecting and improving them.

The most prominent findings are that psychology, education and orthophony curricula are fragile, as revealed by a set of symptoms comprising: indolence, naiveté, ritualism, reductionism, alienation, a dichotomy between the curriculum and the needs of society, the dominance of theoretical over practical knowledge, arbitrariness, and irrational regulation. In conclusion, the paper recommends adopting the DACUM method for designing psychology, education, orthophony, and other humanities curricula, outlining DACUM's characteristics, philosophical principles and basic phases.

I. Introduction

Curricula, with their various components, are undoubtedly considered as one of the essential inputs in any educational system. The design of higher education curricula in Algeria often relies on the instructors themselves and is therefore entrusted special committees, a central team or a semi-permanent central committee. However, while this applies to academic programs, the situation is radically different for applied programs, be it for professions in the technical sectors such as electricity, trade, agriculture etc., or for professions in the humanities such as education, school administration, production management etc., because emphasis in institutions concerned with this kind of curricula is to train qualified professionals ready to work in the professions targeted by their education. This should take place without having to retrain them or bridge any professional gaps that might appear after being in service.

Thus, it can be said that those charged with designing the higher education curricula find it exceedingly difficult to do so, especially when faced with the issue of including all the necessary knowledge needed in the labor market in the educational content. This difficulty is due to the

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academics having little direct field experience because of their commitment to academic work which in turn prevents them from being up to date with the real problems and issues in the workplace. Accordingly, we consider that any improvised attempt to include specific knowledge in the curriculum will inevitably lead to a series of educational symptoms, highlighting the system's fragility.

Proceeding from this premise, and after analyzing the higher education curricula in Algeria, we realize that they have not been spared from improvisation. This is clearly demonstrated by the knowledge fragility indicators detected by a relevant analysis. Therefore, we believe that we need to make an in deptn review of this knowledge and determine its fragility indicators. This will help promote the quality of higher education curricula in the future, in Algeria as well as in all Arab countries.

On that basis, this research paper intends to review the different knowledge fragility indicators in the higher education curricula in Algeria and to propose a series of recommendations in order to improve knowledge quality. For this purpose the paper will deal with the cases of higher education curricula in Psychology, Education and Orthophony, and will apply a descriptive analytical approach.

II. Definitions

1. What is higher education?

Higher education is defined as: «the highest level of education. It encompasses educational studies and programs at the level of universities and related colleges, institutes and centers.» (Friwan, 2008, p. 787).

It is also defined as: «all academic programs designed for education and research at the post-secondary educational level at a university or any other educational institution recognized by the qualified government body as a higher education institution». (Abdouni, 2004, p. 193).

The education system in Algeria combines the higher education system (HES) and the national educational system. HES is formed of higher education institutions including universities, centers, colleges, and grandes écoles. They constitute a total of 58 institutions, of wich 27 universities (including the University of Continuing Education, which has branches in nearly all districts), 16 university centers, 5 national schools, 6 institutes and 4 grandes écoles. (Hakemy, 2008, p. 742).

2. What is a curriculum?

There are several definitions for the curriculum as a concept, but all agree on the following principles summarized herein by (Alghazily et al., 1992, p. 5):

1) The curriculum: is a series of planned activities designed to educate the learner. It comprises objectives, progress evaluation as well as tools and preparations designed for instructors in order to ensure a proper education.
2) The curriculum: is related to all the components of the didactic process (in terms of objectives, content, activities and evaluation).
3) The curriculum: offers a more extended pedagogic planning than that of a program. It extends beyond course programs to include pedagogic and educational objectives as well as learning and training approaches.

Based on these definitions, curricula can be defined as: (Bou abdelah lhassan, 1995, p. 187)

1) A plan designed for the educational process including the objectives, content, activities and evaluation methods.

2) A comprehensive concept that goes beyond the content of the educational course and that determines educational tools, methods and activities based on the ultimate goals.

3) A logical structure of the content›s elements, namely the units, which are interlinked and interdependent.

3. What is knowledge?

a. Definition of knowledge

Knowledge is the sum of facts, concepts, principles and theories that should be assimilated by the trainees in order to undertake learning activities related to their practical vocational skills. Furthermore, knowledge constitutes a full-fledged system based on the linkages between its different components. (Hamdan, 1991, p. 128).

While knowledge has different facets, its use can only have two categories: (Hamdan, 1991, p. 128):
-   Theoretical: generally expressed orally or in writing.
-   Applied: directly related to the use of students' skills and kinetic behaviors.

b. The difference between knowledge and information

As a term, knowledge has a wider scope than information. In fact, the information available in books or on the internet becomes knowledge, once read, assimilated and used. (Majdal Ahmad et al, 2005, p. 193 - 195).

Some analysts go even further and differentiate between data, information and knowledge as follows:
-   Data: the raw material, the untapped source from which information is extracted. Data is the basis of information.
-   Information: «the factor leading to shifts in an individual's behavior and thoughts as well as leading to decision making».
-   Knowledge: it is the outcome of the hidden interaction between all information, experiences, perceptions and the judgment capacities of an individual. This interaction also includes results and decisions as well as assimilating new concepts or establishing old ones. («BouJalal, 2002, p. 106).

Accordingly, there is a clear difference between the terms knowledge, information and data. In the informational hierarchy, data comes at the bottom, being the basis of information on which facts, knowledge and judgment are founded. Information is next which combines data interpretation and analytical description. At the top, we have knowledge which constitutes the different creative applications of information in a well defined context.

4. Definition of the knowledge curricula in Psychology, Education and Orthophony

Since Psychology, Education and Orthophony are specializations characterized by a variety of primary and secondary branches, their courses are just as diverse. Hence, we shall limit our discussion to the courses of the primary branches. However, some courses of the secondary branches could be cited in our analysis.

a. Common-core syllabus of Psychology, Education and Orthophony

The common-core syllabus of Psychology, Education and Orthophony includes a variety of knowledge that is divided into eight courses. A lecture and an application session are reserved for each course on a weekly basis, with the exception of foreign languages (French and English) which are taught in one weekly session. A session is usually consists one and a half hour long. The courses are listed in table1. (MOHE, 1999/ 2000, p. 5- 13).

Table 1: Courses included in the curriculum of the common-core syllabus of Psychology, Education and Orthophony

	Course	Nature of teaching
1	Introduction to Psychology	Lecture + Application
2	Introduction to Educational Sciences	
3	Anthropology	
4	Introduction to Orthophony	
5	Methodology	
6	Social Psychology	
7	Statistics	
8	Foreign Language	Practice

b. Psychology common-core syllabus

The Psychology common-core syllabus consists of seven courses. A lecture and a tutorial are reserved for each course on a weekly basis, with the exception of foreign languages (French and English) which are taught in one weekly session. A session usually lasts one and a half hour. The courses are listed in the table 2. (MOHE, 2000, p. 4 - 6).

Table 2: Courses included in the Psychology common-core syllabus

	Course	Nature of teaching
1	Psychometrics	Lecture + tutorial
2	Guidance and counseling	
3	Introduction to Psychology of Organizations and Work	
4	Introduction to Psychopathology	
5	Physiological Psychology	
6	Developmental Psychology and Personality Theories	
7	Foreign Language	Application

c. Education Common- core syllabus

The Education common-core syllabus consists of seven courses. A lecture and tutorial session are reserved for each course on a weekly basis, with the exception of foreign languages (French and English) which are taught in one weekly session. A session usually consists of one and a half hour. The courses are listed in table 3. (MOHE, 2000, p. 21 -22).

Table 3: Courses included in the curriculum of the Education common-core syllabus

	Course	Nature of teaching
1	Educational Psychology	
2	Applied Measurement in Education	
3	Research Methods in Education	
4	Child and Adolescent Psychology	
5	Biology	
6	Evolution of Educational Thought	Lecture + tutorial
7	Foreign Language	Application

III. Indicators of knowledge fragility of higher education curricula (in Psychology, Education and Orthophony as examples)

1. The value of knowledge in higher education curricula

The value of knowledge in higher education curricula should go beyond the mere accumulation of data, information and facts in order to create renewable knowledge. In this context, it is noteworthy to mention   David Perkins' explanation of knowledge value which he summarizes under three interrelated circles (Perkins, 1992):

a. Acquiring knowledge: it is the acquisition of information, facts, principles etc.

b. Understanding knowledge: creating a meaning which is a combination of the different kinds of knowledge by activating the operations of thinking and observation.

c. Utilizing knowledge: using the knowledge in order to take decisions and to solve problems in all kinds of life situations.

According to the use of knowledge and education in the 1996 UNESCO report entitled Education, that hidden treasure, education has four objectives (Al-Asar, 2001):

a. Learn to know.

b. Learn to be.

c. Learn to act.

d. Learn to live together in peace.

A question remains: To what extent have these objectives been achieved through knowledge in the Psychology and Education major in Algerian universities today?

If the curricula of the higher education system lack consistency and coherence in the content choice and organization, then, knowledge included in this content becomes fragile. Additionally, if we consider that the Psychology and Education major has its own curriculum as is the case for all other majors, then we shall concentrate our study on their efficacy and fragility. Thereafter, we shall determine, through an analytical approach, any fragility indicators.

To answer this question it is necessary to look for the indicators of fragility. But before doing this we have to define knowledge fragility.

2. Knowledge fragility
a. Definition of knowledge fragility in curriculum

Knowledge is considered fragile when it doesn't affect its recipient or allow him to achieve the

desired goals. It is often due to the loss of internal and external consistency in the educational curricula. Knowledge fragility is any kind of knowledge that is deprived in terms of choice and organization, of the necessary scientific standards.

Knowledge fragility can be illustrated, for example, when a student has learned the four mathematical operations, but is incapable of solving a calculus related problem because he can't find the link between what he knows and the cognitive requirements of that problem; he is unable to use his knowledge to solve the problem. While this example might be simplistic, daily situations are far more complicated and complex. Even more so for Psychology and Education students, who are trained to deal with even more complex and intricate cases.

Another example about knowledge fragility is related to instructors themselves. Indeed, much of their assimilation of learning and teaching concepts incarnate their own knowledge fragilities. While they lecture about individualistic differences, they treat their students similarly. While they preach about encouraging talent and creativity, they refuse any deviation from the text (Al-Asar , 2001).

b. Knowledge fragility indicators

Perkins considers that there are four knowledge fragility indicators (Perkins, 1992):
- Absent knowledge: the kind of knowledge apprentices lack because it was originally absent from their educational programs and activities in a curriculum.
- Inactive knowledge: ephemeral knowledge that leaves little impact. It is the kind of knowledge students acquire in order to give typical answers in an exam and it is the result of a system of lectures and rote learning.
- Naïve knowledge: all types of non scientific explanations and interpretations of phenomena despite the existence of scientific ones.
- Ritualistic knowledge: to successfully repeat scientific concepts and views, but in a meaninglessly manner. The operation remains a pointless and futile behavior.

Knowledge fragility indicators, include:
- Missing knowledge: an apprentice's incomplete acquisition of the integrality of a program in any course, whatever the reason may be. (Awashriya, 2008, p. 257).
- Separated knowledge: it is double-faceted, as it is knowledge separation that could be vertical and horizontal. The former consists of losing the linkages between the essential elements of a curriculum. Whereas, each concept is supposed to be taught in different stages, thus, gradually gaining more depth and complexity. As for the latter, it is the discontinuity of educational courses. ("Alghayad, 2005, p. 39). It is also relevant to mention the separation between knowledge as included in educational curricula and the needs of the environment.
- Alienated knowledge: all kinds of knowledge that are entirely irrelevant to the targeted society. In this case, students learn about far away geographical environments and different cultures. That is because students are subjected to imported educational curricula, which do not reflect the students' social and culture national conditions. (Awashriya, 2008, p. 258).
- Incomplete knowledge: it refers to partial knowledge, which means that the student doesn't identify any unity or continuity in the knowledge he acquires, be it between the covered themes by a single course or between different courses. (Fathi et al, 2004, p.101).
- Unbalanced knowledge: all kinds of knowledge lacking balance between the logical classification of a course's content and the psychological state of the student. Hence, it is the absence of balance among the different aspects of the cognitive, emotional and

psychomotor content as well as between the different branches of scientific knowledge. ("Alghayad, 2005, p. 40). This sort of knowledge can be divided into two types:

- Arbitrary knowledge: it surpasses the learner's cognitive and emotional capacities and skills.
- Knowledge not rationally organized: it is the kind of knowledge presented to the student without any logical sequencing.

3. Descriptive and analytical study of knowledge in the Psychology, Education and Orthophony curricula in Algerian universities

Based on: 1) the analysis of courses that are included in the curricula of some branches of Psychology and Education at different levels of the classical Algerian university system, 2) the observation of some of these courses in a number of Algerian universities, such as the university of Batna, the University of Sétif, the University of Biskra, and the University of Annaba, and 3) on the author's own experience, the following series of knowledge fragility indicators were identified:

a. Absence

Any observer of the knowledge value in higher education, which is supposed to be guaranteed by any training system, can expect that the apprentice would be qualified to understand his own culture, as well as important events, influential personalities and cultural components. Ultimately, this understanding is supposed to allow him to play an active role society (Al-Asar, 2001). As a matter of fact, an observer of graduates in Psychology and Education notes that they lack much of that knowledge. The graduates often find themselves incapable of performing their functions, although they have degrees attesting their acquisition of such qualifications. If we try to explain this, we would at first, face a deadlock. However, an analysis of the educational content they received, allows us to spot the absence of information and knowledge that were supposed to be included in the curriculum as basics of the major.

When analysing the content of first year statistics in the common-core syllabus of Psychology and Education, and the material taught in classrooms, one concludes that this content is more suited to students in economics and business. Just as clear is the rare presence of Psychology and Education material in that content. Students in Psychology and Education are nowadays required to master the use of statistical analysis tools. Although, all experts and scholars are well aware of this reality, the content of the syllabus, as designed by the governmental authorities in "statistics", seems to overlook it.

Furthermore, some of the courses that are common to different branches such as the course entitled "Student's Characteristics and Learning Problems" which is required to the fourth year of "Orientation and Guidance" and to the fourth year of "Evaluation and Curricula" suffer from the same problem. If the ministerial guide of contents refers to the same content themes in both branches, reality shows each branch has specific needs from this course. So even if we accept to adopt the same content, its use and objectives should be tailored for each branch. This is exactly what the ministerial team omitted, as did many instructors. I believe this leads to the absence of a necessary knowledge for the student who, in contrast, acquires unnecessary knowledge or simply keeps that gap unfilled. This is due to the fact that the interested parties do not properly analyze the scope of the task, which means that they do not take into account the requirements of the major.

b. Inactivity

The efficiency of knowledge is greatly affected by its acquisition method. For instance, the

learner could recall the conditions of a healthy environment when answering an exam question. Yet, in discussion outside the school these conditions would never come to his mind (Al-Asar, 2001). While Psychology and Education students may master certain theories, they would fail to resolve an issue requiring the application of such theories in real situations. Even though many instructors' conceptions about education and training incarnate this knowledge incapacity, they still lecture about individualistic differences, while they treat their students in a similar manner.

This indicates that inactive knowledge is superficial knowledge and has an expiry date, thus the trainee only exerts it in a single exam or so. It is the natural result of a "combining system" based on knowledge delivery, lectures and recitation, where students receive the content of the educational curriculum without understanding or assimilating it. This ultimately impedes all application or employment of this knowledge. (Al-Asar, 2001).

Many Psychology instructors have themselves studied courses they teach such as: "Educational Evaluation" and "Docimology". However, having analyzed many of the achievement tests prepared by those instructors, it is clear that they lack the minimum conditions of a respectful achievement test, which is due to the instructor's inactive knowledge.

While supervising a large number of graduation research papers in psychology, the author encouraged students to prepare a questionnaire. However, it has been observed that students lack the necessary knowledge to design a questionnaire although they passed the second year exam in "Psychometrics" and "Design of Psychological Tests". Experience shows that the knowledge expires soon after the exam.

It is noteworthy that a full knowledge acquisition cycle includes the following five stages: 1. Access to information, 2. Organizing information 3. Knowledge inference, 4. Knowledge application, 5 Generation of new knowledge. Based on table 3 we may say that emphasis in psychology and education curricula is found in the area highlighted by a solid blue line, while higher education should shift interest to the area highlighted in a dashed line. (Arab Fund for Economic and Social Development, 2002, p. 71).

Table (4) cognitive levels targeted by the Psychology and Education curricula

					Data content
					Data processing
					Data diffusion
Generate New knowledge	Apply knowledge	Deduct knowledge	Organize information	Access to information	

c. Naivety

Naïve knowledge becomes apparent among Psychology and Education specialists, when discussing scientific or social issues using concepts they acquired from non scientific sources. Although, these scientific and social issues were covered by the educational programs and were subject of a scientific explanation, naïve knowledge that was acquired from non scientific sources was in no way replaced. In addition to that, whenever a trainee is asked to recall these issues, he would succeed brilliantly, but if he were to give an explanation or an analysis of these same issues, he would soon fall back on naïve interpretations. (Al-Asar, 2001).

A first year student in Psychology and Education studies in the module "Introduction to Orthophony" a scientific interpretation of what is called "cry of birth". However, during our

observation to students exams we noticed some non scientific answers to this question. Thus, we can consider that naïve knowledge is the result of inactive knowledge that was incapable of obliterating all types of knowledge acquired by the student from non scientific sources at different stages of life.

d. Ritualism

Psychology and Education students acquire scientific terminology and use it with ease; they even repeat scientific concepts and viewpoints which entitles them to succeed in their exams. But in fact, for them, these concepts are known in vain and are meaningless. They are more of the intricate rituals that they repeat, not because they understand them, but just to "row with the flow" (Al-Asar, 2001). With this in mind, a psychological expert could evoke human nature, learning difficulties and a case study when analyzing. However, if asked about the meaning of these concepts, he would fail to answer, and might even choose a specific reasoning or theory without having the tools to backup his choice. Moreover, he could undertake several evaluations and follow-ups without a specific objective for each evaluation. Finally, this specialist might adopt a training pattern in his teaching methods with no rationale.

Psychology and Education students might refer to scientific terms such as pedagogy and docimology using a terminology that is more complex than their own understanding. Hence, when asked to elaborate and explain this terminology, they would be unable to do so.

Thus, ritualistic knowledge can be considered as the result of the inactive and naïve knowledge acquired by the learner.

e. Deficiency

An analysis of the content of the different courses in Psychology and Education reveals a large amount of work in comparison to the academic timetable. This encourages instructors, at certain stages, to concentrate on teaching some kinds of knowledge instead of others that were meant in accordance to their own expertise and personal experience. Consequently, they might overlook specific kinds of knowledge that may be part of the basic professional requirements. Thus, we end up with trained psychologists or educationalists with knowledge gaps. (Awashriya, 2008, p. 257).

Actually, if you analyze Psychology and Education students' acquisition of knowledge and compare it with the original course contents, you notice that in many cases, the required level isn't respected. It is systematic that an entire theme or more is deleted from the program due to time constraints and because the instructors have other occupations or are overwhelmed with exams. In addition, a comparison of students' knowledge acquisition in the same major in two or more universities would rarely show concordance between them, qualitatively or quantitatively. This proves that at least one of the universities did not entirely cover the predefined curriculum's content, which leads to the learner's knowledge deficiency. This is a deficiency that will impact on that learner's life, not only in that year, but also the following year, especially in the case of interlinked curricula.

f. Separation

Psychology and Education students take several courses and each includes a set of knowledge components. However, students may not clearly find a correlation between the different kinds of knowledge in a single course on the one hand, and between the knowledge included in several other courses, on the other. This is because they think that these courses are not linked, which makes their education partial and not complete. Thus, students become unable to find the links between the types of knowledge and fail to invest what they learnt in everyday life. In addition, they can't reproduce knowledge when necessary since the absence of linkages prevents them from producing composite knowledge (Awashriya, 2008, p. 257- 258).

It is also noteworthy to mention that students of Psychology, Education, and Orthophony majors are taught many statistical methods in the "statistics" course during their first year and they pass them. Yet this course has no horizontal links with other courses within the same academic year, nor linked, vertically, to other continuing courses in the following years, such as "Applied Measurement in Education" and "Psychometrics" (second year), etc.

g. Alienation

No one denies that modern science was born in the west and has been deeply influenced by western culture. Thus, modern science blended with human sciences to a great extent, which for Arab students is a hurdle they have to overcome. This is because they must make the distinction between modern knowledge and the elements of western culture it blended with. In this context of a training based on western knowledge, Arab trainees can become alienated from the society they live in. (Awashriya , 2008, p. 258)

Most theories studied by those majoring in Psychology and Education emanate from studies and research conducted in western environments. This includes for instance: learning theories, the theory of Needs, the developmental and personality theories, etc.. These knowledge components which are an essential part of the courses studied in Psychology and Education majors during the different academic years, find their origin in the west, and are the result of studies and research conducted in societies that are relatively different from Arab and Muslim societies in general. Moreover, these theories were first published in the mother tongues of their authors and then translated into Arabic. As we all know, languages are the vehicle of cultures. Hence, the act of translation becomes the greatest challenge facing the efficacy of knowledge in Psychology and Education curricula in Algeria and in all Arab countries. This is also true ofr the psychological tests and standards taught to students.

h. Dichotomy between the curricula and the needs of the environment (labor market)

It is a fact that higher educational institutions ought to meet the needs of the economic sector at the greatest possible speed. For this sector is in dire need of a capable and skilled workforce in order to catalyze development in the country. This need can be accomplished by linking educational knowledge with national realities, by putting knowledge at the service of dealing with everyday problems and by using education to channel students towards needed majors in the national economy. However, many studies (Alhage 1992, and Bou Abdallah, 1993) indicate that the link between the contents of curricula and real practice is very weak and even absent in some cases. This is due to the separation between higher education institutions and productive institutions. HEIs have been unable to study the problems of the productive sector, while on the other hand productive institutions were also incapable of seeking help from educational institutions in order to solve all kinds of problems. (Mokdad, 1995).

In fact, profound changes in the labor market stemming from political, social and economic changes in society were not met by adequate development and modernization of the educational knowledge. This prevented higher education institutions from meeting the needs of labor markets. (Bou Abdallah , 1995).

i. Predominance of theoretical knowledge over applied knowledge

After examining the courses of Psychology and Education majors, and although the curriculum reserves two sessions weekly for each course (a lecture and a tutorial) except for foreign languages, it becomes clear that in many cases, a dichotomy exists between lectures and tutorials, since each teacher deals with a particular theme. Hence, theoretical knowledge could not be applied. Additionally, most tutorials are based on research, and specific themes are distributed

to students who have then to collect relevant information. In the great majority of cases, this operation happens without any guidance, field visits or even any attempt to use the theoretical information students received from their professors or from theoretical research.

In addition, if you reconsider the content of Psychology and Education curricula, you will realize that despite the curriculum's designers intention to take into account the practical dimension by suggesting a new course "training sessions" at the penultimate year of the academic period for all the major's branches, reality shows that these sessions are predominantly field trips to professional institutions rather than training sessions. Moreover, students are often denied internships in these institutions or are granted a maximum of a two-week internship.

j. Arbitrary and irrational cognitive organization of knowledge

An analysis of the course entitled "Introduction to Orthophony", which is programmed by the ministerial guide as a first year course and part of the Psychology and Education common-core syllabus, was found beyond the students' cognitive level. At the initial phase, this course should have been limited to basic concepts related to Orthophony, as a prelude, before the students delve into diagnosing disorders and conceiving treatment plans. Similarly, a study revolving around this major's second year curriculum shows that this course is also programmed for the second year in Orthophony. However, while the two courses share the same title, their content differs. This shows the arbitrariness with which the curriculum's designers in defined and organizing this course according to the students' cognitive level. This abuse becomes even more acute knowing that most of the students in this major have literary backgrounds while "Introduction to Orthophony" is a scientifically oriented course.

The above mentioned examples are just a few symptoms and indicators that we were able to identify, based on our analyses of some courses related to branches of the studied major, as well as our modest experience as teachers in this major. We estimate that our findings are enough to determine the different aspects of fragility in the knowledge of the curriculum related to the analyzed major.

IV. Enhancing knowledge in higher education curricula (Psychology, Education and Orthophony as examples)

All the mentioned indicators, and others, highlight the need for enhancing the quality of knowledge in higher education, but what does quality in higher education exactly mean?

Quality is mastering a job and performing it correctly. Theoreticians evoked the concept of quality from many angles according to a plethora of viewpoints. In higher education, for instance, quality can be discussed from five angles:

- Linking the concept of quality in education to its objectives.
- Linking the concept of quality to inputs and operations.
- The term quality as a benchmark: assess the level of quality in educational institutions according to a series of criteria.
- Determine the quality of educational institutions based on matching the needs of society and emphasizing comprehensive development.
- Quality vs. Quantity, which is to judge the quality of a system or an educational curriculum based on the opinion of the majority.

According to these elements, quality in higher education can be defined as: a highly effective educational service by ensuring the performance of all educational services, from inputs and operations to outputs. In turn, these effectively contribute to the efficiency of performance as

well as the satisfaction of beneficiaries and the fulfillment of their needs. (AlSayed, 2007).

In order to ensure high quality knowledge in higher education, many methods have been employed, of which the most important and effective is a system based on understanding the essential and secondary tasks undertaken by professionals, especially in the workplace, i.e. the Dacum system:

1. The Dacum concept

Dacum is an abbreviation for "Developing of A Curriculum". It is the structural development of educational curricula in a new and unconventional way. This is by organizing a symposium or a workshop to analyze and discuss notes and skill acquisition levels, as defined by specialists in a certain profession. The ultimate objective is to construct an applied educational formula called the "Dacum", which then becomes the expression of a concept, approved by the labor market actors and the experts who will actually be using this formula from one aspect, and the designer of the training curriculum from another. (Daoud, 2004).

2. Specifications and assumptions of the Dacum system
a. Specifications of the Dacum system
The Dacum system is characterized by the following (Daoud, 2004):
   1) It minimizes or fills the gap between theory and practice among learners.
   2) It generates the highest level of enjoyment and enthusiasm among learners.
   3) It adopts a realistic approach and is thus more effective than other systems in achieving the educational objectives.
   4) It exempts the apprentice from internships or any prior professional experience.
   5) It is time and cost efficient in its preparation and application.

b. Philosophical assumptions of the Dacum system
The foundations of the Dacum system are the following (Daoud, 2004):
   1) A practicing professional offers the best and most precise job description.
   2) This job description should be organized according to objectives, content, means, methods, evaluation etc.

Based on that, these foundations lead to the following:
   1) Determine the profession which is being targeted by the educational curriculum such as: "blacksmithing, guidance-counselor, psychologist, etc…"
   2) Unveil the anticipated professional objective required from the practitioner by employers.
   3) Designate work standards according to work types and obligations.
   4) Classify professions by degree of difficulty, the time needed for each partial operation or task, sectors etc.

3. The steps of the Dacum system
The steps of the Dacum system can be summarized as follows:
   a. **Step 1:** Survey the needs of the labor market: This consists of the detection of professions needed by society, in order to link knowledge in Psychology and Education's curriculum to the labor market. This is achieved by ensuring an effective training in terms of quality and quantity, in the required professions. On the one hand, the link should be created without having to resort to arbitrary and improvised decisions, or to just imagination in training individuals in professions which aren't needed by society. On the other, this survey is also a way to determine, accurately profiles or types of psychologists, educationalists and

orthophonists, as desired by employers. This is only possible if a continuous relationship exists between institutions educating psychologists, educationalists and orthophonists, and the labor market. In order for these institutions to create linkages with the labor market, the following norms are a requirement (Ahmad, 2001, p. 234) :

- Identify a functional relationship between training institutions and the places of work and production. This interactive relationship is supposed to continually guarantee the possible participation of employers in the evaluation and development of knowledge in higher education curricula.

- Ensure the employer's participation by convincing them to embark on the task of training by executing programs in cooperation with training institutions. In addition, there should be continuing contact with workplaces according to pre-established procedures.

- Make sure that higher education institutions have enough flexibility and freedom of action to modify the knowledge included in the higher education curricula and other components. This is in order to swiftly respond to changes that might occur in the work environment. This would also enable us to link this knowledge to the needs of the labor market by making curricula flexible and applicable.

In this context, it is convenient to note that if higher education institutions were unable to meet the present and future needs of the labor market, as well as the aspirations of rehabilitating the national human resources, it is because this rehabilitation requires a continuous coordination with the labor market in order to determine its needs. In addition, this depends, to a great extent, on cooperative training which represents the common efforts of training institutions and facilitators in the private and public sectors. These efforts would allow the trainee to use his knowledge and skills which is the most effective means to develop settlement program mechanisms and the work force. It would also give them the chance to truly get in touch with the nature of the labor market in the private and public sectors, so they can ultimately find correlations between these sectors and the theoretical and applied sciences. Ultimately, students would be able to complete the required fieldwork and thus, conclude their training. (Asioufi, 2007).

b. **Step 2:** Job Description: This is the enumeration of the tasks and practices that are crucial for specialists in the execution of a profession. A job description doesn't necessarily define all conditions and criteria pertaining to the execution of a profession, or the qualities of employees. In fact, these definitions are psychological and procedural aspects included in another step, which is job analysis. (Hamdan, 1991, p. 30).

If for example, the profession for which the training program will be specifically tailored is "student counselor", then the choice of knowledge to be included in the training curriculum will be decided in a special meeting of professional counselors active at the time of the symposium. These professionals are then asked the following: question "What are the major tasks of a school counselor?" this is the basis of the Dacum system.

Then, a series of discussions would take place based on the answers provided by the counselors, and detailed tasks are then developed. Afterwards, each task is noted in details, and finally written down on a large card with all relevant details. (Daoud, 2004).

c. **Step 3:** Organization and Classification of the Job description: As previously mentioned, the second step ends with an organization of tasks according to those consecutively entrusted to school counselors.

The organization of tasks can be done according to the level of difficulty, starting with the

hardest task (Daoud, 2004). Moreover, in order to make the concept of task accessible and facilitate the enumeration of its relevant behaviors, through the job description, as well enable the definition of necessary knowledge for training; it is possible to classify these behaviors into two types of smaller behavioral units: the Task and the Action.

The profession is considered as the total sum of the employees' actions during the provision of services or the production of a commodity. Whereas, the task is the total sum of actions that constitute a sub-unit of a given behavior adopted by the worker to fulfill a part of, or the integrality of an independent or a semi-independent obligation within the single occupation. As for actions, they are consecutive behaviors adopted by the employee to fulfill functional tasks. In view of the diversity and multiplicity of a behavioral job structure, the tasks are undertaken successively till the achievement of desired results in the case of a simple occupational structure, or indeed is the result of its practical obligations, in general. (Hamdan, 1991, p. 30).

d. **Step 4:** Job Analysis: This is a final review of the validity of any suggested occupational tasks and actions in the light of real data and requirements. Afterwards, the job analysis consists of detailing human, psychological, financial and administrative requirements related to the occupational performance in constructive practical conditions, in order to produce the desired services or commodities. A job analysis fulfills three main objectives:

- Updating the behavioral content of the occupation in accordance with new performance requirements, this is also a common objective with those related to job description.
- Carry out the occupation by determining all kinds of human, psychological, financial and administrative requirements.
- Design educational curricula related to the occupation. Design comes after analysis. Analysis comes after job description. This is an operation of behavioral enumeration of the occupational content. (Hamdan, 1991, p. 30).

Job analysis is possible by forming a development team including designers of curricula and some of the professionals participating in the professional debates. This team concentrates on the tasks mentioned in the job description of "school guidance-counselors", and then formulates them as educational/ procedural objectives. The designer shall take into account the following question: In order to train an individual, what are the necessary means and requirements? (Daoud, 2004). Actually, these measures are applicable to all majors; however, in the case of the humanities majors, more specifically, in majors with human aspects, it is possible to adopt the abovementioned approach by adapting some of its details to the previous steps.

V. Conclusion

From the above information, it is possible to conclude that the knowledge included in Psychology, Education and Orthophony majors is fragile, according to a series of indicators: absence, inactivity, naivety, ritualism, deficiency, separation, alienation, dichotomy between the curriculum-related knowledge or environment-related needs, predominance of theoretical knowledge over applied knowledge, the imbalances between theoretical and applied knowledge, in addition to cognitive arbitrary and the irrational organization of knowledge.

In order to improve higher education curricula in general and those of Psychology, Education and Orthophony, in particular, curriculum designers should abide by the following standards:

- Analyzing the occupations and include all their requirements in their specific curricula.
- Shifting from an educational system based on data and information dictation to one based on modifying behaviors and exploiting and producing knowledge.
- Eliminating naive knowledge from the contents of curricula and seeking to modify or remove this kind of knowledge among learners.
- Unveiling the wisdom behind all types of knowledge so they do not remain mere rituals.
- Applying the principles of continuity and consecutiveness in the organization of knowledge.
- Localization of psychological and educational sciences.
- Linking higher education institutions to their environment.
- Creating a balance between theoretical and applied knowledge.
- Taking into account the cognitive, emotional and skill development of the learner.
- Achieving the logical organization of knowledge.

In order for curriculum designers to respect these standards, they need to involve other stakeholders in choosing and organizing curriculum-related knowledge. These should include experts and in the labor market. Furthermore, they should adopt the Dacum system, not only in Psychology, Education and Orthophony, but also in all the other majors, especially those characterized with a human aspect.

References

Perkins, David (1992). *Smart Schools, Better Thinking and Learning for every child*, Free Press, NY.

أحمد، مصطفى (2001). **مخرجات التدريب المهني وسوق العمل في الأقطار العربية**. ط: 1، طرابلس، ليبيا: المركز العربي للتدريب المهني وإعداد المتدربين.

الأعسر، صفاء (2001). إسهام علم النفس في نظام التعليم. **سلسلة محاضرات لجنة علم النفس**. القاهرة: المجلس الأعلى للثقافة، الفترة من أكتوبر 1999 إلى يونيه 2000، ص. ص. 47 – 67.

بوجلال، عبد الله (2002). إشكالية الوفرة الإعلامية والمعلوماتية في ظل العولمة. **الحقيقة**. الجزائر: جامعة أدرار، (عدد 1)، ص. ص. 102-122.

بوحفص، حاكمي (2008). منظومة التربية والتعليم وسوق العمل في الجزائر، في: لجنة المؤتمر (محرر)، **سجل أبحاث المؤتمر الثاني لتخطيط وتطوير التعليم والبحث العلمي في الدول العربية**. 24-27 فبراير 2008، الجزء الثاني، (ص. ص.: 739-751)، **الظهران**: جامعة الملك فهد للبترول والمعادن.

بوعبد الله، الحسن (1995). تقويم البرامج التعليمية للمهندسين (دراسة ميدانية). في: مجموعة من المحررين (محرر)، كتاب الرواسي رقم: 04، **قراءات في المناهج التربوية** (ص. ص.: 183-222). باتنة: جمعية الإصلاح الاجتماعي والتربوي.

حمدان، محمد زياد (1991). **تصميم وتنفيذ برامج التدريب بأسلوبية رقمية سلوكية لتحسين الموظف والمؤسسة والوظيفة**. عمان: دار التربية الحديثة.

داود، ماهر محمد (2004). الديكام منهجية جديدة لتصميم وتنفيذ برامج التدريب. **الثقافة التربوية**. الإمارات العربية المتحدة: إدارة البحوث التربوية والمؤسسية، (عدد 1)، ص. ص. 105-113.

السيد، محمد آدم أحمد (2007). كيف نصمم بيئات التدريب؟ **التدريب والتقنية**. المملكة العربية

السعودية: المؤسسة العامة للتعليم الفني والتدريب المهني (عدد 102)، جمادى الثانية/يوليو، ص. ص. 32-36.

السيوفي، بسمة بنت عدنان (2007). التدريب التعاوني: الربط بين نظم التدريب ومتطلبات الوظيفة. **التدريب والتقنية**. المملكة العربية السعودية: المؤسسة العامة للتعليم الفني والتدريب المهني (عدد 103)، ص. ص. 16-24.

الصندوق العربي للإنماء الاقتصادي والاجتماعي (2002). برنامج الأمم المتحدة الإنمائي، **تقرير التنمية الإنسانية العربية**. خلق الفرص للأجيال القادمة.

الطارقي، عبد الله بن سيدي محمد (2008). العلوم الأدبية والتطبيقية والدور الحضاري المنشود. في: لجنة المؤتمر (محرر)، **سجل أبحاث المؤتمر الثاني لتخطيط وتطوير التعليم والبحث العلمي في الدول العربية**، 24-27 فبراير 2008، الجزء الأول، (ص. ص.: 501-512)، الظهران: جامعة الملك فهد للبترول والمعادن.

عبدوني، عبد الحميد (2004). التعليم العالي في العالم العربي واقعه وآفاقه. **سلسلة إصدارات مخبر إدارة وتنمية الموارد البشرية**. الجزائر: جامعة سطيف (عدد 1)، ص. ص.: 193-198.

عواشرية، السعيد (2008). برامج التعليم العالي في الدول العربية بين اكتساب المعرفة وإنتاجها وإشكالية هشاشتها – الجزائر نموذجا – في: لجنة المؤتمر (محرر)، **سجل أبحاث المؤتمر الثاني لتخطيط وتطوير التعليم والبحث العلمي في الدول العربية**. 24-27 فبراير 2008، الجزء الأول، (ص. ص.: 247-260)، الظهران: جامعة الملك فهد للبترول والمعادن.

الغازلي، عبد اللطيف، وآخرون (1992). **البرامج والمناهج من الهدف إلى النسق** (مقاربة نسقية لتحليل وبناء الأنظمة التربوية والبرامج الدراسية من الأهداف إلى التقييم). المغرب: دار الخطابي.

الغياض، راشد بن غياض (2005). **تطوير مناهج العلوم في ضوء الاتجاهات الحديثة**. القاهرة: دار عالم الكتاب.

فتحي، يونس وآخرون (2004). **المناهج الأسس، المكونات، التنظيمات، التطوير**. عمان: دار الفكر.

فريوان، عبد السلام مهنا (2008). العولمة وأثرها على التعليم العالي. في: لجنة المؤتمر (محرر)، **سجل أبحاث المؤتمر الثاني لتخطيط وتطوير التعليم والبحث العلمي في الدول العربية** – 24-27 فبراير 2008، الجزء الثاني، (ص. ص.: 783-802). الظهران: جامعة الملك فهد للبترول والمعادن.

مادي، لحسن (1990). **الأهداف والتقييم في التربية**. (بدون بلد ودار النشر).

مجدل أحمد، وآخر (2005). إقتصاد المعرفة والتعليم عن بعد: الواقع والأسس. دراسات، الجزائر: المطبعة العربية. غرداية، جامعة الأغواط ، (عدد 3)، ص. ص. 188 - 216.

مقداد محمد، 1995. استجابة البرامج الجامعية لمطالب التنمية الوطنية، دراسة حالة لبرامج علم النفس الصناعي. في: مجموعة من المحررين (محرر)، كتاب الرواسي رقم 4، **قراءات في المناهج التربوية**، (ص. ص.: 223-245)، باتنة: جمعية الإصلاح الاجتماعي والتربوي.

وزارة التعليم العالي والبحث العلمي، مديرية التعليم والتكوين (1999/2000). برنامج ليسانس علم النفس وعلوم التربية الوطنية، علم النفس وعلوم التربية والأرطوفونيا. الجزائر.

وزارة التعليم العالي والبحث العلمي، مديرية التعليم والتكوين (2000). البرنامج البيداغوجي للجذع المشترك لعلم النفس وعلوم التربية والأرطوفونيا. الجزائر.