

BOREDOM IN THE PRIMARY SCHOOL – CASE - STUDY OF ALGERIAN SCHOOL CHILDREN-

ATTIK, MOUNA*

MOHAND LHADJ, KARIMA**

ABSTRACT_ *This article aims at discussing the phenomenon of boredom in the Algerian primary school. For revealing its different causes as perceived by children as well as possible solutions that may reduce its magnitude, a sample that consists of 8 girls and 8 boys, aged 11 years old was selected. The descriptive approach as a theoretical frame, the focus group as a tool for data collection and content analysis as a crucial technical means were all chosen for this end. It seems from this survey that the problem is significant for learners as they can really feel it due to various reasons related mainly to either physical or mental pressure. First, physical fatigue is likely to make young learners fed up carrying the heavy school bag every day. Second, the archaic, traditional teaching methods as well as the absence of school or entertaining activities form a crucial source of boredom to children. Finally and more importantly, the pressure parents usually exercise on their children engenders a fear of not meeting their wish (i.e; good grades) together with the fear of the mockery of teachers and other classmates. Finally, and to overcome this negative feeling, children propose many measures like giving importance to entertainment and extra -curricular activities, calling for teacher's encouragement while evaluating learners; and maintaining a good relationship teacher/learner that can deepen motivation in learners.*

KEYWORDS: *boredom, cause, cure, schoolchild, parent, teacher, method, school activities, extra -curricular activity, motivation.*

* Badji Mokhtar University, Department of psychology , Annaba, ALGERIA.

**Badji Mokhtar University, Department of English , Annaba, ALGERIA.

BOREDOM IN THE PRIMARY SCHOOL – CASE - STUDY OF ALGERIAN SCHOOLCHILDREN-

I. INTRODUCTION

For the learner, demotivation is a real handicap that explains many failures he/she may endure.; whereas motivation a powerful energy that can lead from success to another. But to find and preserve it, the pedagogues claim that we must find “meaning” in what the other offers us as in teaching, or in a given pedagogical activity. But meaning without boredom is an immediate satisfaction and, meanwhile, boredom without meaning is the void and, perhaps, the impossibility of experiencing the pleasure of learning that we seek to create in each class [1].

Boredom is not a new phenomenon in the educational system, but its manifestations change. Today, we contribute to the passage from a boredom contained within the limits of academic convenience, to a boredom that spreads openly with insupportable insolence, one that questions the very legitimacy of teachers and sometimes threatens the balance of school [2].

In the last fifteen years, boredom in school contexts has frequently been mentioned especially in the media as a new element in explaining the problems of involvement in different activities in school contexts. Leloup [3] Thus, boredom at school appears to many scholars to be the first symptom of school disengagement as much as a psychic suffering. The majority of the authors consider boredom as an inevitable reality; as a kind of bridge or a compulsory passage of any knowledge acquisition and therefore as a constructive process [4].

Another point of view on the issue of boredom is summed up as the pressure that parents put on their children. Numerous studies in psychology have shown that adolescents who live with families where the pressure of "excellence" reaches the peak experience much higher rates of depression and anxiety than usual. The pressure of good results and the stress generated can lead to the spiral of academic failure and create boredom, disgust of studies and of school in general. In short, the opposite effect will be obtained [5].

A third opinion on boredom at school; however, summarizes the causes of boredom by the “reciprocal” sense of guilt which is imposed on the mind of the student and that of the teacher.

To learn more about the reality of boredom in the Algerian school, students were given the opportunity to learn more about what they meant by it and what they were experiencing. For this end, we have opted for a focus group, where spontaneity and freedom of expression are possible and where we can shed more light on the issue of boredom in the primary school, its triggers and its remedies as conceived by the bored schoolchildren.

We will then discuss the conceptual framework in which the word 'schoolboy' was defined, the term 'boredom', boredom at school, triggering factors and remedies. Then, a thorough analysis of the field will be held together with details and results, and finally concluding by some proposals in an attempt to solve this problem of boredom at schools.

1- Definition of the word "schoolchild":

According to the Oxford dictionary, the word "schoolchild" means: A child who attends elementary school, or the lower classes of a college. It is also: no one yet inexperienced in a field; apprentice.

2- Definition of the word "boredom":

In modern psychology, boredom has often been defined as an “affective state composed of unpleasant feelings, lack of stimulation, and low physiological arousal” Pekrun et al [6] It can be even identified as an emotion characterized by some constituents cf. Pekrun [7]: affective (aversive feelings), cognitive (perception of time passing slowly), motivational (urge to change the situation or activity), physiological (low arousal), and expressive (postural or facial expressions).

Another possible, but not exclusive, definition for it is “the lack of interest.” Goetz & Hall; Pekrun [6]. The latter that, contrary to boredom, is usually neutral as far as emotions are concerned. In other words, feeling disinterested in something will not result in some kind of pain. According to Goetz & Frenzel [8], boredom is emotionally upsetting because of the serious affective load it may engender, while a lack of interest is just a situation where the person may choose either to do or to avoid doing the targeted thing.

In the academic context, boredom can be classified as a type of emotions tied to learning situations or achievement related activities Pekrun [9]. It is usually experienced in academic settings such as during classroom activities or while completing homework. The present study, therefore, investigates academic boredom and its antecedents in school settings as perceived by learners.

3- Boredom at School:

Boredom indicates a contextual dis-ease at school, usually manifested as violence in colleges and high schools, but also in a more individual way when it is related to stress, "stomach ache", failure at school, etc. And at the same time, it is also the indicator of gifted students. These various remarks; therefore, immediately include boredom in a manageable dynamic [10].

in the sense that it can be controlled by a given kind of will. Nonetheless, boredom cannot be explained solely by a weakness of people or school, focusing on student disinterest, teacher demotivation, school content or teaching methods. Ferriere [11] Boredom at school is a matter of "relationship", certainly of a pedagogical type; one that studies the transformation of one relation to the other, in a dimension that is both subjective and social. The latter that through many representations of boredom at school, exposes teachers and learners as responsible for this boredom; Teachers by their resignation and students by their demotivation. It is a discourse on the disinterest of some parts that engenders the boredom of others and even accentuates it.

3-1- Causes of Boredom at School:

Negative feelings can hamper the future performance of human beings. Stress and boredom, for instance, can diminish the ability of people to concentrate and even to remember details in their daily life. These effects can be a serious problem in school settings as students need to multiply their efforts and boredom can create long-term

learning difficulties for them. Markman [12]

Norway as one of the countries that believe that "feeling well at school" is an important factor of success, is encouraging it officially Lechevalier [13] Similarly, Arab authors, notably Algerians, linked this positive feeling to the good conduct and good attitude of the parents towards their children and their constant encouragement. Lise & Cornu [14] According to studies conducted by J. Roy, to have a "taste" to go to school and to succeed depends on the quality of relationship between the student and his/her teacher. The more positive it is, the more comfortable the learner is. Belarouci, [15] "emphasis mine" But why does boredom always exist among these learners? And what are its causes?

Theoretically speaking, boredom can arise from many causes stemming from teachers, from the institution, from learners or even from knowledge, Roy [16] causes that the following illustrations will attempt to clarify:

- Boredom may come from the relation that learners maintain with the lesson content in the sense that his interest or indifference he may feel individually for a matter can be a source of boredom or pleasure.

- In some modules, school causes the most total annoyance and a deep disgust even in the most interested pupils. For example, schools continue to hold back students' critical thinking and creativity by recommending to stick to a given program. Leloup [3] The latter through which pedagogy appears as an old attack of sclerosis [17].

- Boredom is due to a problem of understanding of the learner as it is necessary to understand before learning.

- Boredom arises when the representation of the discipline by the learners is so negative as being unnecessary, or without particular interest. The literary disciplines for Scientifics, for example, are the boring subjects and the scientific subjects for the literary are the most hated disciplines.

- Boredom arises when the student observes that a discipline is not used in everyday life! The impression, then, is that the future professional life of the learner holds a prominent place on the one hand, and that a given subject is appreciated according to its utility in everyday life, on the other. The taste for science, then, rises because it can lead these learners to carry out their professional projects successfully [18].

- The module is not used for the kind of general culture learners expect. Going to school, to many people's understanding, makes it possible to acquire a general culture, but the problem is that each one gives the expression "general culture" a personal meaning that satisfying everyone becomes impossible!

- Boredom occurs when the teacher-learner relationship is not healthy in the sense that students may experience difficulties in finding a global sense in school work just because the reciprocal influence goes very badly between them and their teacher. The importance of this teacher's role is in the lack of intrinsic satisfaction in school work. The teacher, and the relationship that students have established with him, remain the only variable that separates a hard-working class from a pleasant one. If students do not want to learn, desire comes from the teacher. In other words, to find an emotion lost in the school work, the learner should go towards the teacher "to seek a taste at all costs".

3-2- Solutions to Reduce Boredom at School:

Finding a solution to reduce boredom at school will definitely be an overcoming of it. This transcendence is not necessarily aimed at producing incessantly new, original methods, but more or less it tries to deal with things newly by offering the basic, vivid conditions for the teaching and learning process to take place. Here, some proposals that may concern parents, teachers and even students are presented to solve this phenomenon:

- The relationship teachers -learner must be improved.
- The teacher must be severe to maintain order.
- Teaching should be more concrete and practical rather than theoretical.
- The use of information and communication technologies (ICT) should be promoted.
- Solutions related to the institution must be taken into account like reducing the number of learners per class, reducing the hourly volume, improving the learning conditions of high school students, etc.)
- Students should be made aware of solutions related to them like the necessity to change one's negative behavior to a positive one, to adapt to the variables that enclose them in one's institution or in a class, and by putting things right like accept to learn History because this material can be beneficial and interesting later on.

The above mentioned solutions to boredom are not exclusive, as it is not easy, Leloup [3] remarks, to consider solutions for boredom at school. The reasons are complex, and so the list of solutions one may think of, but the real difficulty revolves around the multiplicity of pupils' boredom. Also, Teachers and learners do not always agree on the effectiveness of the remedies in question.

II- Field Study:

In addition to psychic suffering it may cause, school boredom is considered by many scholars as the first symptom of dropping out of school. On the other hand, some educators like Philippe Merieu who explains the problem differently and sees it as a necessary passage from any acquisition of knowledge. Boredom for him is a sign among others of a dysfunction of the school institution and the transmission of knowledge. And if the symposiums take place from time to time and from one country to another on the question itself -in an indirect and subtle way- (Sorbonne 14 January 2003, Algeria 2014, Tunisia 2017), the reality of school children in Algeria and their experience in schools confirms the phenomenon. (Moussaoui, 2017) It is found that even students at the preparatory classes are bored, too [19].

As a result, we are interested in the subject of boredom, and we would like to ask the following questions:

-What are the causes of boredom in Algerian primary school institutions as seen by pupils?

-What are the remedies of school boredom as perceived by the students themselves?

Objectives of the study:

-Shedding more light on the phenomenon of boredom in the Algerian primary school.

-Discovering the different causes (factors) of school boredom.

-Recommending some proposals perceived by students as remedies for school boredom.

The present study took place in April 2015 in a primary school in the wilaya of El-tarf where it was intended to answer three main questions: First of all, do elementary school students understand the meaning of "boredom"?

Second, why are these schoolboys bored? and finally, do they predict solutions for this state?

In trying to compare the evidence that is almost theoretical causes of boredom to the test of the field, we passed a "focus group" with 16 Algerian schoolchildren who willingly agreed to collaborate with us in expressing their opinions with absolute freedom about the issue of boredom at school.

Content analysis of this collective interview with these learners (aged 11 years old), eight of which are girls, reveals what they perceive by the question, what they experience and what they propose as solutions. It was clear

that the meaning of the word 'boredom' is understood by these children, as they often live it but multiple causes of boredom at school, and / or in classroom exist. Also, this same analysis showed the students' ideas / keys to change their situation of boredom and move on to another situation that of getting to a state of fulfillment, taste and pleasure to learn. Simply put, our interviewees have proposed effective remedies for their problem despite their young age.

I - Presentation of results:

1- Causes of boredom at school

Table 1
Causes of Boredom at School

Axis	Category	Element of analysis (verbatim)	frequency	Percentage	
Causes of boredom at school	1-Teacher-Student Relationship	I am marginalized by my teachers.	14	5,03‰	
		I feel misunderstood and despised	13	4,67‰	
		My teacher is unfair to me	13	4,67‰	
		Teachersoftenhumiliate me	11	3,95‰	
		Teachers laugh at my level	10	3,59‰	
		The teacher often insults me before my classmates.	8	2,87‰	
		Teacher does not value my effort	8	2,87‰	
		Teacher still braces my motivation in studies	8	2,87‰	
	Total	8 Expressions (verbatim)	85	30,57	
	2- Parental Expectations and Child Stress	2- Parental Expectations and Child Stress	My parents want the content of my classes to impress and interest me;	16	5,75
			My father punishes me if I do not get good results;	16	5,75
			Thinking about academic failure, my stress is growing and I'm getting bored;	14	5,03
			My mother obliges me daily to learn by heart what our teachers taught us;	13	4,67
			For my mother, the good grades start from 8 out of 10;	12	4,30‰
			My mother often asks my teacher to monitor me in class and report everything to her;	10	3,59‰
			My parents will deprive me of my rights to play, if I do not get good grades (big sigh), their threat bores me;	9	3,23‰
			The heaviness of my schoolbag tires me, and so..	6	2,15‰
			... I think only of this physical pain (at the same time that the teacher explains the lesson) (sighs)	6	2,15‰
			Total	09 expressions	102
	Inadequate teaching methods, Evaluation andAbsence of extracurricular activities	Inadequate teaching methods, Evaluation andAbsence of extracurricular activities	We are asked to do homework without even correcting them !(angry)	12	4,31‰
			It is a pity not to benefit from the excursions during our studies!?(Surprised)	12	4,31‰
			Teaching methods do not attract my attention... it's incompetence	12	4,31‰
			I would like to have subjects like music, singing,... (joy and smile).	12	4,31‰
			Total	04 expressions	48
Specificity of the group of schoolchildren	Specificity of the group of schoolchildren	The number of pupils is very high	16	5,75‰	
		There are those who often annoy the teacher, so we are all punished... and it is unfair	14	5,03‰	
		Some students make a lot of noise in class	13	4,67‰	
		Threeunits	43	15,63‰	
Four categories		24 expressions	278	100‰	

II. DISCUSSION

In analyzing the discourse, there are four categories in the dimension of the causes of boredom in school as perceived by schoolchildren that are:

- 1- Teacher-Student Relationship
- 2- Parent Expectations and Child Stress
- 3- Teaching methods and absence of extra-curricular activities
- 4- Specificity of the group of schoolchildren

In the first category, there are eight expressions cited by the students expressing and reflecting the suffering of

schoolchildren, their sensitivity and self-esteem, with a high frequency compared to the number of interviewees: (I am marginalized by my teachers, I feel misunderstood, My teacher is unfair to me, Teacher mocks my level, Teacher insults me Often in front of my classmates, the teacher does not value my effort, Teacher still braces my motivation). It is noted that the teacher-student relationship is not successful and it is not well established; here teachers seem to be the main cause of boredom that is the same result obtained in the study of Stephane [3].

In the second category, we call attention to nine formulas

cited by learners, which indicate another cause of their boredom. These expressions summarize the expectations of parents and their negative impact on children: (My parents want all the contents of my classes to impress me and interest me, My father hits me if I do not get good results, by thinking of school failure, my stress is growing and I'm getting bored more and more, My mother is forcing me to learn by heart what our teachers teach us. For my mother, the good grades start from Of 8 out of 10, My mother often asks my teacher to watch me in class! The weight of my schoolbag tires me, and so... I only think about this physical pain as the teacher explains the lesson).

These students are very stressed by the grades, their learning, their fear of failure, the constant control of parents and the pressure exerted on their school work, and even their demands which make parents' expectations a subject of psychological conflict. Also, the very fact of thinking that the weight of the schoolbag tires children is itself a boring topic.

For the third category, it contains four expressions referring to the confused state of these learners. The latter who seem to live in a killing routine of teaching methods. According to them, nothing is innovated as everything is

archaic. “We are asked to do housework without ever correcting them, Teaching methods do not attract my attention” are some of the expressions they uttered. They also exhibit an absolute disgust of school because they feel barricaded in the classroom, deprived of their freedom commenting that “It's a shame not to benefit from excursions during our studies”, “I would like to have subjects like music, singing...” etc.

The fourth category, however, by its three statements, summarizes the problems that occur in the classroom like the overloaded classes, the presence of some disruptive classmates, which makes the teacher angry, resulting usually in the punishment of everyone. In the children's own words, “some students make a lot of noise in class, there are those who often annoy the teacher, We are all punished,... and it is unfair!”. These statements give the impression that an unhealthy environment of boredom while learning is created on the one hand, and also a one where the injustice of the teacher and his absolute authority reigns on the other; two types of environments that obviously discourage learning.

2- Proposals to reduce boredom at school

Table 2
Proposals to reduce boredom at school

Axis	Category	Element of analysis (verbatim)	Frequency	Percentage
Proposals to reduce boredom at school	1- The good quality of a teacher-student relationship (mutual respect, encouragement, valorization of efforts, motivation,...)	I would like my teacher to respect me and not insult me in front of my classmates.	16	14,81‰
		The teacher must be interested in the student's effort, even if it is average or weak;	16	14,81‰
		It is preferable that the teacher evaluates the student's effort on a daily basis.	16	14,81‰
		If the teacher is nice to the student, this learner will be motivated more and more in the studies	16	14,81‰
	- 2- Reduce the student's physical fatigue and think about entertaining him	04 expressions (verbatim)	64	59,25‰
		If the number of school books we use and transport every day is reduced, I shall never be exhausted and annoyed.	16	14,81‰
		would like to give importance	16	14,81
		the activities of entertainment and tra-curricular activities, cause they pr will probably luce boredom at school		
		d like the number of esentations and extracts from bsites to be	12	11,11‰
		luced, since we do not always derstand. it is not really portant		
Total	Twocategories	03expressions	44	40,74‰
Total		07expressions	108	100‰

Discussion:
In analyzing the discourse, there are two categories in the dimension of the solutions proposed by the schoolchildren

to minimize the harmful consequences of their boredom at school. These categories are:
1- The good quality of a teacher – student relationship

(mutual respect, encouragement, valorization of efforts, motivation,...)

2- Reducing the physical fatigue of the student and think about entertaining him.

In the first category there are four significant expressions through which students dream of a good relationship with their teachers considering this so essential as it may help them to reduce boredom at school and / or in class. In the same way, a good relationship teacher-learner, according to them, will be a source of joy and self-confidence. Hence, they produce the following expressions summing up their wish for mutual respect and trust between teachers and learners: “I would like my teacher to respect me and not insult me in front of my classmates, If the teacher is nice to the student, the latter will be motivated more and more in his/her studies).

By mentioning these opinions, learners point to a sensitive point that could be the reason of boredom that is the degree of “self- esteem”. These children would like to be valued by the teachers as it will benefit them: (The teacher must be interested in the effort of the student, even if it is average or weak, It is desirable that the teacher evaluates students’ effort daily).

In the second category, there are three expressions summarizing the learners' desire to change the school system and its unpleasant functioning. These children, then, propose extra-curricular activities: “I would like they give importance to the activities of entertainment and extra-curricular activities, since they will probably reduce the boredom at school). So it seems that these are physically exhausted (If the number of school books used and transported every day is reduced, I shall never be exhausted and bored.) Moral fatigue also comes from the homework which is according to these learners of little importance and without scientific output. Since the teacher obliges them to do activities at home without feedback, this will leave students confused about the aim behind: (I would like that we reduce the number of presentations extracted from the websites, since we do not always understand, It's not really important!)

3- Overall Results and Discussion:

Boredom is physically and emotionally unpleasant. It can frustrate you, make you angry, and it can also negatively influence your behavior. "Bored" or "ennuyés", people are inclined to do anything. Markman [12] but not talking about their experience. Conversely, young learners in this study were very interested in approaching the theme of their school experience as, from the beginning, they tackled the subject of boredom.

In a rich discourse, full of reproaches where schoolchildren complain at first, expressing their anguish and justifying their boredom at school, the study was held almost objectively. According to what they said, there are many factors contributing to this problem, especially the parents' suffocating expectations about success, good marks, and so on.

Also, teachers have a great deal of responsibility for the boredom of their students in that they are, on the one hand, unjust, indifferent, and severe, and they lack competence because their teaching methods remain archaic and attract little attention from schoolchildren on the other. The lack of extra-curricular activities, the turbulence of some classmates, and the high number of learners, are other factors they stressed.

The second stage of this focus group gave students the opportunity to talk more freely, proposing possible solutions for the boredom they feel at school. These solutions summarize two common ideas that are: The good quality of a teacher-student relationship (mutual respect, encouragement, valorization of efforts, motivation, etc) and entertainment (extra-curricular activities, etc.)

III. CONCLUSION AND RECOMMENDATIONS

When analyzing this interview (focus group), it was noticed that the majority of the interviewees (more than the average) seemed to be out of step with the expectations of the institution as well as the expectations of the parents because of feeling bored.

If learners, despite their young age, perceive boredom as a break and withdrawal or absence from oneself and from others, it is time to diagnose the causes and yet have the courage and the will to propose remedies. In our opinion, it is urgent to shed light on this phenomenon and it is desirable also to:

- put a coordination and follow-up system at the disposal of the partners (learners, parents and teachers) directed by psychologists, pedagogues and even sociologists with the objective of guaranteeing a flourishing motivation in studies.
- Review school programs (hourly volume,...)
- Evaluate the relationship teacher-learner periodically.
- Introducing entertaining activities.
- Review the components of each class so that repeating and / or disruptive students are psychologically supported.

REFERENCES

- [1] Meirieu, P. (2003). de l'ennui en pédagogie. Retrieved From: www.meirieu.com/ARTICLES/ennui.pdf1.
- [2] Meirieu, P. (1998). *Pierre. J et al (2005). L'ennui vu par les élèves - ses indicateurs et ses effets -* Retrieved From L'ennui website: <https://www.cairn.info/revue-connexions->
- [3] Leloup, S. (2003). *L'ennui des lycéens: du manque de motivation au décalage des attentes.* Phd. Thesis
- [4] *L'ennui à l'école. (2003). Les débats du cndp, Paris: Albin Michel.*
- [5] L'hyper-éducation et l'échec scolaire. Qu'est-ce que l'hyper-éducation ? Peut-elle être une cause d'échec scolaire ? Retrieved From l'échec scolaire website: http://www.lechecscolaire.com/ehec_scolaire/ehec_scolaire/ehec_scolaire_education.php.
- [6] Pekrun, R., Goetz, T., Daniels, L. M., Stupnisky, R. H., & Perry, R. P.(2010). “Boredom in Achievement Settings: Exploring Control-Value Antecedents and Performance Outcomes of a Neglected Emotion. ”*Journal of Educational Psychology.* 102(3), 531-549. doi:10.1037/a0019243
- [7] Goetz, T., & Hall, N. C. (in press). Academic Boredom. In R. Pekrun & L. Linnenbrink-Garcia (Eds.), *Handbook of Emotions in Education.* Routledge: Taylor & Francis
- [8] Goetz, T., Frenzel, A. C., Stoeger, H., & Hall, N. C. (2010). Antecedents of everyday positive emotions: An experience sampling analysis. *Motivation and Emotion,* 34(1), 49-62. doi: 10.1007/s11031-009-9152-2
- [9] Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and

- implications for educational research and practice. *Educational Psychology Review*, 18(4), 315-341.
- [10] Calay, F (2015). *L'ennui*. Retrieved From: <http://www.calay.be/ennui.php>
- [11] Ferriere, S. (2009). *L'ennui en contexte scolaire - Représentations sociales et attributions à l'école primaire*- Phd. Thesis.
- [12] Markman, A. (2012).What Is Boredom?- The key factors underlying boredom-Retrieved From Boredom website: (<https://www.psychologytoday.com/blog/ulterior-motives/201209/what-is-boredom>).
- [13] Lechevalier, I (2011). *L'ennui au collège*. Retrieved From Cairn Info Website: <http://www.cairn.info/revue-lettre-de-l-enfance-et-de-l-adolescence-2005-2-page-77.htm>
- [14] Lise, A. Cornu, L. (2011). *Le plaisir et l'ennui à l'école- Relier les études et la vie*-.Revue internationale d'éducation - S È V R E S, no 57
- [15] Belarouci, L. (1999). *Le jeune et la scolarité entre réussite et échec, Pratiques Psychologiques*, Vol.1, N°1.
- [16] Roy, J (2006). *Les valeurs des cégépiens et la réussite scolaire: portrait des valeurs et repères pour l'intervention, service social*, Vol. 52, n° 1, p.31-46.)
- [17] Cornu, L. (2011). *Le plaisir et l'ennui à l'école - Relier les études*. *Revue internationale d'éducation –S È V R E S*, no57.
- [18] Lage. L (1993). *Lycéens et pratiques scientifiques-comment les sciences deviennent une passion*-Paris: Editions de L'harmattan.
- [19] Mazouz , R (2016). *L'éducation préparatoire entre l'école coranique et l'école primaire –étude exploratoire comparative-Mémoire de Master 2 en psychologie de l'éducation sous la direction de Dr Attik Mouna*.UBMA.