From Learning Situations to Skills:
Analysis of Learning Situations towards Appropriation of Cognitive-Procedural and Socio-Emotional Skills. A New Obstacle to Overcome!

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Abstract: *The competency approach shows to be promising for improving the quality of education. However, the observation is quite different. His assessment touches on three levels, diagnostic, formative and summative. From a didactic point of view, we are interested in exploring another dimension of evaluation towards skills development according to the two domains proposed by the OECD. The question has addressed by proposing a device for analyzing skills through learning situations. It has two grids, one of categorization processes instructions to achieve the skills, and another referencing to validate the skills of the student through the calculation the quotient of skills. The application to the Tunisian curriculum, supposedly constructed according to the skills approach shows that it focused on the cognitive domain restricted to a transmission and analysis of knowledge.*
Keywords: *Learning situation, competency, categorization grid, referencing grid, competency quotient.*

I.   Introduction: problematic questioning and objectives of research

The skills approach is described by (Morin, 2014) as an educational approach that allows the acquisition of multiple, sustainable, knowledge-based knowledge and action that is supposed to develop committed behaviors towards the good. -being individual, social and global and conveying shared ethical and civic values. Thus improving the understanding of the other, self-confidence, community solidarity and diminishing by the same, misunderstanding, lack of trust, injustices and social violence. It has presented in Tunisia as in many other countries of the world as promising to improve the quality of training at school and to reduce the failure rate and dropout rate. Roegiers (2000) argues this valuation of APC by its method based on the problematization of knowledge. This method seems the most motivating of the learner since it takes as a starting point the resolution of significant problem situations for him, and addresses this resolution in a discursive interaction that allows developing the reflection, and the argumentation among learners guided by the teacher and able to mobilize learning in new situations. These promising aspects explain the political choice of the skills approach. However, instead of improving the quality of training and enabling better education for learners, the situation is quite different: increased violence, school failure and school dropout. In addition, the situation has worsened since the Tunisian revolution of 2011, perhaps because of the lack of resources of parents and outdated infrastructure to access the school. Above all, since that date, the control of learning has no longer ensured properly by the state and the rate of abandonment is becoming increasingly precocious. In this article, we focus our interest on cognitive-procedural skills and socio-emotional skills in the school process, which has not shown since the OECD report (2015).

Problematic questioning

The problem emanates from this observation, in this study, which focuses on improving skills; we seek to improve Tunisian education through learning situations by answering the following two questions:
* Do learning situations develop cognitive-procedural skills?
* Do learning situations develop socio-emotional skills?

The question will be addressed by proposing a device for analyzing learning situations with a view to readjusting them to the development of skills useful for social development.

Objectives of the study

- Develop a useful mathematical tool for assessing learning situations in relation to the need for skills
- Analyze with this tool a program or chapter of the program (purportedly built according to the competencies) to determine if the targeted competencies can be achieved.
- Produce recommendations to support the development of cognitive-procedural and socio-emotional skills in the context of curriculum reform and education policy.

II.   Theoretical framework: concepts of learning situation and competence.

Before describing the analysis device, a theoretical framework is necessary to recall the two notions of learning situation and skill.

2.1.   What does a learning situation mean and what are its components?

A learning situation is a statement that contains a problem to solve; hence, the situation is often accompanied by the word problem. The activity of learning by the situations develops from these situations written in the curriculum. Rogiers (2003), developed the components of a situation (-the support and the instructions) to facilitate their educational use. These constituents can be organized in three by adding context.

- The context describes the environment of the situation and the orientations related to the domain of the situation.
- Resources may be informal, formal and other that the student may have available to deal with the situation.
- The instruction or process instruction includes all the instructions given explicitly to the student to guide him in the resolution of the situation.

Thus, the context and the resources had proposed in advance, the set process represents an important variable in the resolution of the situation. Indeed, Jonnaert (2015) specifies that it must account for the interest of the situation (meaning, purpose, openness ...) to allow a more effective treatment towards the appropriation of the targeted skill.

2.2.   What allows situations to be meaningful and which learning situations to choose?
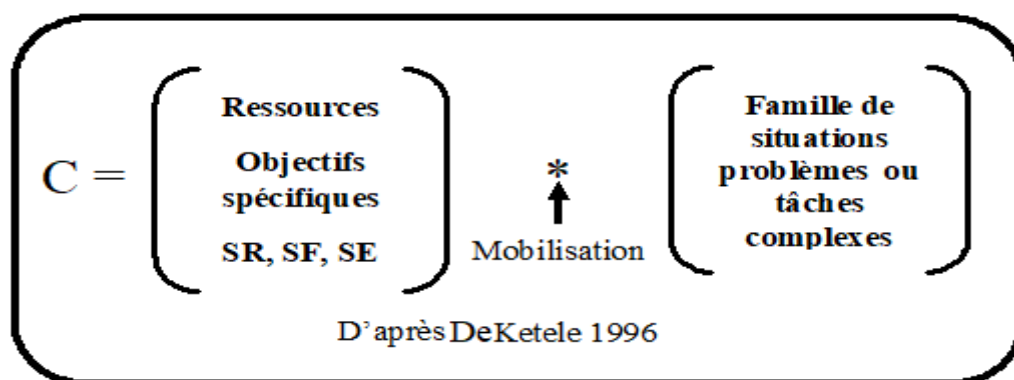
For a situation to have a meaning for the learner, it must touch it closely, and must therefore, contain problems of daily life. The context becomes, for Simonneaux (2011) a primordial component of the situations making them authentic. With advances in science, scientific problems have raised multiple questions about the uncertainties they convey, about their local and global social impact, on the powers that can be exercised by experts in the field and the holders of political, economic and media power over companies. Scientific issues concerned with health and the environment are becoming controversial and have earned them the name of Socially Living Science Issues (QSSV). Legardez and Simonneaux (2006) consider them triply alive in the sphere of scientist experts. In the social sphere where the effect of these issues feels and in the educational sphere involving all actors of the education system. Their treatment at school has become paramount. The PCA applied to these issues becomes a socio-constructivist approach and its importance increases because it starts from even more significant situations for learners since they directly affect their lives. The treatment of these problem situations become a treatment of "life situations"[1] requires the broadening of the participation framework to several actors in school and out of it, the extension of the method to take into account the vivacity of the issue and the diversification of resources that must belong to different scientific fields. (Morin, 1999) considers that 21st century education must educate the future since it is increasingly threatened. To claim to do so, (Morin, 1999) suggests that this teaching must take into account seven fundamental knowledge of the future: -the status of the error, -the uncertainty and the risks incurred, -the ecological and environmental notions, -the human nature at the same time unity and diversity, -the human understanding, -the interactive intra- and interdisciplinary complexity of the phenomena. Currently, the writing of problem situations constitutes any curricular entry by situations. Masciotra et al (2009) specify that these situations had extracted from a bank of

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[1] "Problem situation" has two meanings. According to Bachelard, an epistemological situation rests on the problems that arose during the construction of knowledge by the expert, so that the learner can reconstruct this knowledge by analyzing these problems considered as obstacles to overcome. According to Dewey, a construction of knowledge by investigation that solves the problem. With the advent of QSV, we propose to replace problem by life and the situation becomes a "life situation". This proposition stems from the fact that the notion of problem is generally demotivating and therefore to be avoided; replacing it with a life situation becomes more motivating, especially since it is more meaningful for the learner.

situations relating to different areas of life and set as international standards. These authors identified five interconnected life domains: -health and well-being, -professional guidance and entrepreneurship, -environment and consumption, -the media, -living together and citizenship. While the context and resources had proposed in advance, the set process represents an important variable in the process of resolving the situation. Indeed, (Jonnaert, 2015) indicated that she must report the interest of the situation (meaning, purpose, openness ...) to enable more effective treatment. (Allal, 1979, 1993) considers that in a didactic approach based on situations, the evaluation of the situational learning process can only be realized during the process itself and can therefore only be formative in an interactive approach. This evaluation has optimized by taking into account, not only the knowledge acquired, but also the emotional, social and psychomotor components mobilized.
Is the meaning of the situation sufficient to develop quality learning?

2.3.   What is a skill and what is the relationship with situations?

The quality of learning is traditionally measured by a summative assessment of knowledge displaying a mark that allows exam success if it is positive But, with the approach by the situations, it appeared that this method is insufficient and requires a formative evaluation of the degree of implication of the learner in the treatment of the situation. This qualitative evaluation mode seeks the development of multiple skills. (De Ketele, 1996) defined competence as the product of resources and problem situations,

$$C = \begin{bmatrix} \text{Ressources} \\ \text{Objectifs spécifiques} \\ \text{SR, SF, SE} \end{bmatrix} \overset{*}{\underset{\text{Mobilisation}}{\uparrow}} \begin{bmatrix} \text{Famille de situations problèmes ou tâches complexes} \end{bmatrix}$$

D'après DeKetele 1996

Letor, C. (2006), based on this definition, considers competence as the product of resources, contents and problem situations and that the resources-contents are represented by the specific objectives elaborated in the actual curricula represented in the schoolbooks.

Compétence = Ressources X Contenus X Situations problèmes

Donc, Compétence = Objectifs spécifiques X Situations problèmes

Competence is the result of a participatory activity of the learner around a problem situation guided by specific objectives elaborated in the form of contents and resources. This approach qualifies constructivism. This is only possible if it opens up to new situations. In addition, for power, it depends on the development of critical thinking. Skills influence social progress and fall into two categories:
-    Cognitive skills develop thinking and complex reasoning.
  • Communication, analysis and discussion of complex problems, but also
  • The application of knowledge in knowing-how, which includes psychomotor skills.
-    Socio-affective skills (OECD, 2016). What have a role in life issues (motivation, confidence, feelings) and can lead to creativity and innovation.

III.   Methodology and tool of the analysis

According to (Bardin, 1977, 32), researcher in sociology, the use of content analysis, seems useful as soon as we are dealing with communications aimed first to overcome uncertainty and make the analysis valid and generalizable, then to enrich this content through the demonstration to increase the relevance and describe the mechanisms. In education and in the case of learning domains the message content analysis should be applicable; it has a first heuristic function aiming to enrich the exploration and to increase the discovery and a

second function of the administration of the proof by using hypotheses for a systematic analysis of confirmation or denial. (Bardin, 1977, 35) defines content analysis as a set of communication analysis techniques. In the context of education, the learning situations envisaged in textbooks are forms of communication that guide the learner through a set of instructions to achieve cognitive-procedural and socio-emotional skills. (Khzami et al., 2010) consider that the analysis of pedagogical styles makes it possible to list the approaches advocated by textbook publishers to know whether the textbook has based on a report of knowledge or on a series of activities leading to a greater or lesser degree of student participation. The categorization adopted by (Khzami et al., 2010) makes it possible to identify in each textbook, through the analysis of sentences, the importance given to student participation. Mihret Zewdie (2014) analyzes different aspects of the textbook, for each aspect defines, and calculates the student participation index. This author specified that the aspects are classified into six categories that are - learning objectives, - text stories, - activities, - figures and diagrams, - summaries and - end-of-chapter exercises. In this study, we focus the analysis on the relationship between assets and liabilities to show whether the learning situation proposed in the textbook leads to the acquisition of the two categories of cognitive-procedural and socio-emotional skills. This has not been demonstrated since the (OECD, 2015) report. In the skill-based situation analysis, we will mainly consider the process and the activities that lead to the skills. In addition, we will adopt the OECD categorization of competencies into two cognitive and socio-affective types. This choice is because cognition and acting are more related to each other (we can group them into cognitive-procedural skills, while affect allows us to appreciate more the quality of cognition and act competent. The respective characteristics of the objectives of these skills had summarized in Table 1.

3.1   Categorization of the set of processes

The analysis of skills by the situations, takes into account the processes indicated. We will adopt the OECD categorization of competencies into two types. (Table 1).

Table 1. Characteristics of cognitive-procedural and socio-emotional skills	
Objectives of cognitive-procedural competences	**Objectives of socio-affective competences**
Develop scientific reasoning through the development of reflective, critical, and evaluative thinking of complex and interdisciplinary scholarly knowledge	Develop attitudes of trust, tolerance, acceptance, understanding, ethical judgment
Acting cognitive and procedural critical sustainable taking into account the errors, uncertainty, complexity and precariousness of our environment	Act responsible citizen taking into account the diversity of human nature, its impulses in the choice of decisions committed to more than social justice

Evaluating these processes comes down to competency assessment. These skill categories are analyzed according to the classification developed by Bloom in six taxonomic levels (1-6), and improved in seven levels (1-7) by DISCAS pedagogues, (cited in Henry et al., 1987, 2006). These seven levels can allow the development of the two categories of cognitive-procedural and socio-affective skills that had analyzed according to the proposed action verbs that can belong to two types of approach (Table 2):

- The first type: transmissive, passive, compartmentalized and prospective approach to knowledge that does not take into account a reductionist vision of cognitive action: positive static knowledge
- The second one: Participatory, interactive, systemic and retrospective approach to knowledge that brings out various skills valued in:
  - ✓ Act reflective Cognitive-procedural, critical on contextualized, controversial, problematized, complex and interdisciplinary knowledge
  - ✓ To act reflexively, critically, socially, democratically, engaged and responsible.

Table 2. Bloom categories and their respective processes translated into action verbs classified according to the two domains of learning-cognitive-procedural and socio-emotional action

Bloom Categories	Learning Domain-Act and Process Instructions
7. Creativity method, idea, original product	Cognitive-procedural domain
	To interpret, to design, to invent, to innovate, to make, to develop, to manufacture
	Socio-emotional domain
	To Create, to interpret, to conceive, to imagine, to improvise, to choose, to engage, to decide
6. Evaluation Judge value for a specific purpose	Cognitive-procedural domain
	Passive, silenced transmissive and prospective approach
	To give according to the order, to estimate, to evaluate, to appraise, to verify by tests
	Active, participatory, systemic and retrospective approach
	To estimate, to evaluate, to evaluate according to criteria, to problematize, to enrich, to analyze, to criticize
	Socio-emotional domain
	To appreciate, to estimate, to evaluate according to criteria, to judge ethical, to discuss, to criticize, to reflect, to problematize, to choose, to decide
5. Summary Reformulate based on multiple sources	Cognitive-procedural domain
	Passive, silenced transmissive and prospective approach
	To assemble, to compile, to compose, to edify, to shape, to form together, to put together, to gather, to put back in order, to organize, to structure, to systematize
	Active, participatory, systemic and retrospective approach
	To construct, to explain, to integrate, to produce, to combine, to rebuild, to regroup, to reorganize, to restructure
	Socio-emotional domain
	To rebuild, to create, to integrate, to produce, to reorganize, to discuss, to engage, to respond, to comply
4. Analysis examine a subject, explain the ins and outs	Cognitive-procedural domain
	Passive, silenced transmissive and prospective approach
	To break down, to disassemble, to dissect, to divide, to extract, to separate, to simplify
	Active, participatory, systemic and retrospective approach
	To examine, to explain, to research, to discuss, to analyze
	Socio-emotional domain
	To analyze, to examine, to discuss, to take sides, to search, to open, to judge, to criticize
3. Application apply knowledge in a concrete situation	Cognitive-procedural domain
	Passive, silenced transmissive and prospective approach
	To apply, to employ, to illustrate, to practice, to postpone, to translate, to transpose, to use
	Active, participatory, systemic and retrospective approach
	To adapt, to complete, to interpret, to problematize, to illustrate, to complete, to transfer, to popularize, to discuss, to choose, to open
	Socio-emotional domain
	To adapt, to complete, to illustrate, to interpret, to problematize, to transfer, to popularize to discuss, to open, to choose
2. Understanding mastery of written and spoken language to understand and discuss	Cognitive-procedural domain
	Passive, silenced transmissive and prospective approach
	To mount, to discriminate, to distinguish, to formulate, to use
	Active, participatory, systemic and retrospective approach
	To construct, to criticize, to disassemble, to differentiate, to estimate, to integrate, to schematize, to generalize, to give examples, to predict,
	Socio-emotional domain
	To criticize, to differentiate, to integrate, to discuss, to appreciate, to problematize, to defend, to implicate, to predict
1. Knowledge mastery of information, terminologies, techniques, etc. and critical	Cognitive-procedural domain
	Passive, silenced transmissive and prospective approach
	To abbreviate, to quote, to check, to copy, to cut, to designate, to say, to give, to define, to describe, to enumerate, to encircle, to spell, to sketch, to exclude, to identify, to register, to insert, to locate, to mark, to show, to name, to note, to place, to pronounce, to recite, to recognize, to repeat, to select, to separate, to locate, to emphasize, to reproduce, to match
	Active, participatory, systemic and retrospective approach
	To choose, to say, to give, to sketch, to insert, to demonstrate, to select, to emphasize, to discuss, to criticize, to problematize, to enrich, to open, to produce, to propose, to study
	Socio-emotional domain
	To choose, to discuss, to pronounce, to select, to criticize, to enrich, to open, to produce, to support, to ask, to follow, to associate, to propose

The improvement was carried out by trying to subdivide each category (taxonomic levels 1-7) into action verbs classified according to the two cognitive-procedural or socio-emotional domains and according to both passive in addition, active approaches. We have also added other action verbs that show active action: cognitive, procedural and socio-emotional as to engage, to discuss, to enrich, to open, to pronounce, to problematize, to appreciate, to schematize, to analyze, to restructure .... This grid shows that, apart from category seven, which is in the field of creative and therefore active action, the other six categories show a cognitive-procedural domain that can adopt a passive or active approach.

3.2 Protocol of categorization of the corpus of the instructions processes

The action verbs stated and related to the processes outlined in the different themes of the textbook had identified and translated (if necessary). A grid represented by Table 3 is established.

theme	parts of theme	activities	situations	Instructions (translated)
Theme 1	Part1	Activity 1.1	Document 1.1.1	……………….
			Document 1.1.2	……………….
			Etc.	Etc.
		Activity 1.2	Document 1.2.1	……………………
			Document 1.2.2	……………………
			Etc.	Etc.
		Etc.	Etc.	Etc.
	Part 2	Activity 2.1	Document 2.1.1	…………………..
			Document 2.1.2	……………………
			Etc.	Etc.
		Activity 2.2	Document 2.2.1	……………………..
			Document 2.2.2	……………………..
			Etc.	Etc.
		Etc.	Etc.	Etc.
	Etc.	Etc.	Etc.	Etc.
Theme 2	We do the same work for each theme			
Theme n				

Table 3: grid of instructions according to the themes of the program

The instructions noted had classified into the two categories of skills: cognitive-procedural, and socio-affective. These skill categories had analyzed according to the classification developed by Bloom in six taxonomic levels (1-6) and, improved in seven levels (1-7) by the pedagogues of DISCAS (cited in Henry et al, 1987, 2006). (Table 2).

These seven levels can allow the development of the two categories of cognitive-procedural and socio-affective skills. They had analyzed according to the proposed action verbs that can belong to two types of approach (Table 2):

- Transmissive, passive, compartmentalized and prospective approach to knowledge that does not take into account a reductionist vision of cognitive action: positive static knowledge
- Participatory, interactive, systemic and retrospective approach to knowledge that brings out various skills valued in:
  - ✓ Act reflexive cognitive-procedural, critical on contextualized, controversial, problematized, complex and interdisciplinary knowledge
  - ✓ To act reflexive, critical, citizen, democratic, committed and responsible.

Table 4 shows the categorization grid of the set processes.

Table 4. Grid of analysis of process instructions							
Field of Action	Category of Skill	Approch	Cardinal In Extension	Global Cardinal	Total	% Process	% To act
			Process Instructions	occurrences of action verbs			
Cognitive Procédural	1. Knowledge	Active		a	active approach A = a+b+c+d+ e+f+g		A+P
	2. Comprehension			b			
	3. Application			c			
	4. Analysis			d			
	5. Synthesis			e			
	6. Evaluation			f			
	7. Creativity			g			
	1. Knowledge	Passive		a'	passive approach P= a'+b'+c'+d' + e'+f'		
	2. Comprehension			b'			
	3. Application			c'			
	4. Analysis			d"			
	5. Synthesis			e'			
	6. Evaluation			f'			
Socio-Emotional	1. Knowledge	Active		a"	socio-emotional SA= a"+b"+c"+ d"+e"+f"+ g"		SA
	2. Comprehension			b"			
	3. Application			c"			
	4. Synthesis			d"			
	5. Analysis			e"			
	6. Evaluation			f"			
	7. Creativity			g"			
Total							

3.3 Referencing and evaluation of the different referents of the processes

• **Textual referent of the statement of situations:** It is evaluated by the proposed action verbs for each category of Bloom improved and numbered from one to seven (Table 3).

These verbs are classifying according to the process and can be measuring by its external and internal components.

- The external components are the rate of the active approach compared to the passive one and the rate of the cognitive-procedural act compared to that of the socio-emotional one (Table 3).

- The internal components are the calculations of the occurrences (table 3) of each case then of a coefficient of participation Qtx:

$$Q_{tx} = A+SA / P$$

A = the sum of the active occurrences in the 7 skill categories $(a + b + c + d + e + f + g)$ of the cognitive-procedural action

P = the sum of the passive occurrences $(a '+ b' + c '+ d' + e '+ f')$ of the cognitive-procedural action

SA = sum of occurrences in the 7 skills of social-emotional action $(a "+ b" + c "+ d" + e "+ f" + g ")$

- **Referent of referential documents related to situations:** This referent proposed in the manual consists of tables of numerical values, graphic and pictorial representations.

$$Q_d = a / b$$

a = (documents encouraging analysis, reflexive and committed activity)
b = (documents of supporting that illustrate the statement)

- **The referent skills:** These skills had mentioned explicitly along the learning process. Their occurrences in the text of the manual may give an assessment of the degree of participation. This appreciation is also measured by a quotient Qc:

$$Q_c = a/b$$

a = number of paragraphs where the skill is mentioned
b = total number of paragraphs

- **The referent activities of learning:** It is appreciated by the quotient Qa

$$Q_a = a/b$$

a = number of pages with activities
b = total number of pages

- **The referent summary (or synthesis of learning):** This referent can provide information on reflection and openness to new knowledge or the integration of complex and interdisciplinary knowledge. It is evaluated by the quotient Qr

$$Q_r = a/b$$

a = summaries of questions without answers opening up to new situations
b = static summaries of the text of the manual

- **Referent evaluation in End-of-chapter (exercises):** This referent is evaluate by the quotient Qe, counting the number of exercises presenting a transfer to new situations added to the number of exercises asking to build and solve problems, compared to exercises that directly assess knowledge gains and those that ask for definitions.

$$Q_é = a+b/c+d$$

a = number of exercises of transfer
b = number of exercises of problem-solving
c = number of exercises with direct answers in the book
d = number of questions definitions

These referents and their quotients are grouping in a referencing grid represented by Table 5.

Table 5. Grid of Referencing and Quotient of Participation																												
Referent	**Texts of situations**																			**Documents of situations**		**Activities**		**Skills**		**Summary**		**Exercises in End**		
Domain	**Cognitive-procedural domain**													**Socio-emotional domain**																
Approach	**Active approach**							**Passive approach**						**Active approach**																
Consigne	a	b	c	d	e	f	g	a'	b'	c'	d'	e'	f'	a"	b"	c"	d"	e"	f"	g"	a	b	a	b	a	b	a	b	a	b	c	d
Occurrence																																
Total	A =							P =						SA =							a/b		a/b		a/b		a/b		A+b		C+d	
Quotient Q	Qtx = A + SA / P																			Qd= a/b		Qa=a/b		Qc=a/b		Qr=a/b		Qe=a+b/c+d			

3.4. Analysis of quotients

The quotient values (referencing grid in Table 5) make it possible to determine whether the learning situations proposed in the curriculum make it possible to value the participatory interventions of learners that lead to the development of cognitive-procedural and socio-affective skills.

IV.   Implementation of the tool: Analysis of the real curriculum of education of the ninth basic year of

SVT in Tunisia

We have chosen to analyze a precise curriculum level, that of the teaching of "life and earth sciences" (SVT) in the ninth year of basic preparatory education in Tunisia. The choice of SVTs is because the program has supposedly developed according to the skills approach. In addition, the constraint of the specialty of the researcher belonging to the specialty of biology. The choice of the year is justified by the fact that this year corresponds to the end of the studies of college, step considered obligatory in Tunisia, after which, the learner can leave the studies and look for a social and professional insertion. It seemed interesting to know if the learner is sufficiently equipped with skills to face the real life situations at the end of the preparatory cycle.

3.4   Corpus d'analyse : le manuel est rédigé en arabe, nous en relevons la traduction (tableau 6)

Table 6: Corpus of Analysis: Life and Earth Sciences Manual, Grade 9 of Basic Education. Ministry of Education, Tunisia.					
Country	**School book**			**themes**	**paging**
	Level of study (age)	Manual (number of pages)	Publisher / Publishing		
Tunisia	Ninth year of foundation (between 15 and 17 years old)	Life and Earth Sciences (S.V.T) (208 pages)	National Pedagogic Center (2015 edition)	Theme 1: relationship with the environment	p. 6-53
				Theme 2: The function of nutrition	p. 54-148
				Theme 3 : Reproduction and health	p. 149-207

4.2. Steps of the analysis
4.2.1. Record Categorization of process instructions
As a first step, we take note of the learning procedure instructions for each program theme, and we categorize the process instructions according to the domains of action and the corresponding approach, we obtain the grid of categorization, (Table 7)

Table 7: grid of categorization of the instructions process							
Domain of Action	Categories of Skills	Approach	Cardinal In Extension	Cardinal Global		Total	% Process	% to act
			Process Instructions	occurrences of action verbs				
Cognitivo-Procédural	1. Knowledge	Active	To choose	1	a=1	approche active A a+b+c+d+ e+f+g = 100	32.89%	A+P= 97,03%
	2. Understanding		Give an example to build schematize	1 1 4	b=6			
	3. Application		Complete	6	c=6			
	4. Analysis		Analyze Search explain	18 8 49	d=75			
	5. Synthesis		Write a paragraph Rebuild recap	3 1 3	e=7			
	6. Evaluation		Criticize Measure	4 1	f=5			
	7. Creativity		nothingness	00	g=0			
	1. Knowledge	Passive	quote Check Give a title Define Describe Enumerate Identify Inscribe Rate, Name Recognize Raise Call back dissect	35 11 1 11 14 2 20 23 7, 7 18 2 1 2	a'=174	approche passive P a'+b'+c'+d' + e'+f' = 195	64,14%	
	2. Compréhension		Show	8	b'=8			
	3. Application		Calculate count	7 1	c'=8			
	4. Analysis		Extract	1	d'=1			
	5. Synthesis		…….	0	e'=0			
	6. Evaluation		order	4	f'=4			
Socio-Affectif	1. Knowledge	Active	Propose support	6 1	a"=7	socio-affectif SA a"+b"+c"+ d"+e"+f"+ g" = 9	2,96%	SA = 2,96%
	2. Compréhension		……………	0	b"=0			
	3. Application		…………	0	c"=0			
	4. Analysis		………….	0	d"=0			
	5. Synthesis		…………	0	e"=0			
	6. Evaluation		What do you recommend? What are the benefits of the decision	1 1	f"=2			
	7. Creativity		…………..	0	g"=0			
Total				304			99,99%	=100%

4.2.2. Analysis of the results of categorization of instructions

This grid shows that socio-affective skills useful for human development are proportionately very low (2.96%) compared to cognitive-procedural skills (97.03%), relative to the topics proposed at the 9th year basic level. This leads to the conclusion that the real curriculum developers only care about the cognitive-procedural domain where the approach adopted is rather passive (64.14%) than active (32.89%). The cognitivo-procedural domain alone is insufficient for the reinforcement of skills useful for the development of the ontological being who is disarmed, dogmatic, intolerant, closed, seeking either to impose and become authoritarian, or to isolate himself and to be reject by society.

4.2.3. Referencing active participation of student

To evaluate the active participation of the students, we apply the quotients of the referents registered in the grid of referencing (table 8).

Table 8: Grid of Referencing and Quotient of Participation

Référent	Textes des situations																				Document of situation		Activities		Skills		Summary		Exercises of the End of parts			
Domain	Cognitive-procedural domain														Socio-emotional domain																	
Approach	active Approach							passive Approach						active Approach																		
instruction	a	b	c	d	e	f	g	a'	b'	c'	d'	e'	f'	a"	b"	c"	d"	e"	f"	g"	a	b	a	b	a	b	a	b	a	b	c	d
Occurrence	1	6	6	75	7	5	0	174	8	8	1	0	4	7	0	0	0	0	2	0	65	109	100	208	13	37	05	28	1	22	425	11
Total	A = 100							P = 195						SA = 9							65/109		100/208		13/37		5/28		23		436	
Quotient Q	Qtx = A + SA / P = 100 + 9 / 195 = 0,56																				Qd= 0,59		Qa= 0,48		Qc= 0,35		Qe= 0,18		Qe=23/436= 0,05			

4.2.4. Analysis of SEO quotients

The stated texts of the learning situations have a quotient of (0.56) showing a tendency towards the passivity of the learners (64.14%) more than their activity reduced by half (32.89%). This degree of participation is insufficient to reinforce skills, especially since this participation focused on the exploration of knowledge.

The quotient of the referent documents related to situations is of the same order of magnitude as the statement of situations (0.59). It has designed in the same vein. The quotients obtained for referents activities and skills declared, are low (0.48, 0.35) or very low (0.18 for a synthesis activity supposed to develop the reflection on the knowledge) testify to a weak recourse to the resources that make learning easier; they also show the small number of activities needed to motivate learners. Similarly, the low value of the skills, the lack of explicitness of them, which is not in favor of an approach by the situations supposed to develop skills. The very low quotient of 0.18 indicates an inability to produce and synthesize knowledge in the learner. The end-of-chapter exercises have an even lower index of 0.05, which is not in favor of a formative evaluation; the trend towards summative evaluation shows that the curriculum focuses on memorization.

IV.   Conclusion

Situations appear to be insufficient for the development of declared skills. Competences focused on the cognitive domain, and in this area; the favored approach is that of the passive transmission of a partition knowledge, simple and not problematized. This is incompatible with the criteria of the competency-based approach, introduced in the curricula prescribed as a savior of the education system. The reflective elaboration of life situations within a curriculum that envisages "teaching to live" can be based on this mathematical device that is easy to calculate and easy to analyze. This applies to the entire curriculum or curriculum theme. Thus, curriculum developers can make improvements, readjustments, or even major transformations by integrating different dimensions and different resources. They can also think about incorporating into their proposals competences explicitly mentioned and belonging to the two fields of competence recommended by the OECD and on which PISA has based to assess the level of pupils.

Bibliography

[1]   Allal, L. (1993). "Metacognitive regulation and formative evaluation". In L. Allal, D. Bain P. and Perrenoud, P. (Ed.). (1993). *Didactics of French and formative evaluation*. Neuchâtel: Delachaux and Niestlé. P. 81-98.

[2]   Allal, L. (1979). "Formative evaluation strategies: Psych pedagogical conceptions and application modalities". L. Allal, J. Cardinet and P. Perrenoud (Ed.), *Formative Evaluation* in *Differential Education*. Bern: Lang (seventh edition, 1995). P. 130-156.

[3]   Allison, C. M., Dufour. M., Desilets. D., Beauchesne and M-P., Dumas. (2002). *The competency-based*

approach to support learners to independence. Quebec.

[4]   Arcand, Lyne. A., Anne. V., Lisée. M-C., Roberge. And C., Tessier. (2014). *for integrated and effective interventions of promotion and prevention in school context: theoretical foundations, model and essential knowledge*. Quebec.

[5]   Bardin, L. (1977). *Content analysis*. Paris. University Presses of France.

[6]   Benaouda, B. (2009). "Learning, Skills and Math Skills Approach". *The CRASC notebooks,* No. 16. P. 23-37.

[7]   Bouvier-George, M. (1979). Parameter, parameter definition. National Center for Textual and Lexical Resources, CNRS, https://www.cnrtl.fr/definition/parameter Visited on 12th ofJune 2019

[8]   Cardinal concept. Learn Mathematics, Mathematics Lessons & Exercises, Math Test # 108436: Cardinal of a Set. https://www.mathematiquesfaciles.com/cardinal-d-un-ensemble2 108436.htm

[9]   DISCAS. (1987-2006). Taxonomy of DISCAS. The DISCAS archives. http://www.csrdn.qc.ca/discas/tdm.html visited on 20th June 2019

[10]   Henry, J. and J. Cormier. (1987-2006). The archives of DISCAS http://www.csrdn.qc.ca/discas/tdm.html visited on 20th June 2019

[11]   Jonnaert, Ph. (2015). *Guide for the development of an educational program in the perspective of skills development by learners*. UQAM.

[12]   Jonnaert, Ph. P., Charland. S., Cyr. R., Defise. Mr. Ettayebi. D., Furtuna. J., Sambote. A. Simbagoye and K., Tahirou. (2010). "Situational approach: Matrix of competent treatment of situations". *The notebooks of CUDC*.

[13]   Khzami, S. B. Agorram, S. Selmaoui, P. Clement, F. El Hage, B. Bernard and B. Berger, (2010). "Health education: comparative analysis of biology textbooks in 3 Mediterranean countries". *Education & Training* - e-292 - January 2010, p. 57-67.

[14]   Le Boterf, G. (2000). *Engineering skills.* Organization editions. Ed., Revised and corrected, Paris

[15]   Legardez, A. and L., SIMONNEAUX. (2006). *School in the Test Case - Teaching Social Issues.* France: ESF.

[16]   Letor, C. (2004). *The evaluation of competencies since the diversity of definitions and procedures: Some ideas for the establishment of a centralized evaluation and its implications.* Brussels.

[17]   Masciotra, D. and F. Medzo. (2009). *Develop a competent act. Towards a curriculum for life*. De Boeck. Belgium. First edition.

[18]   Mihret zewdie, Z. (2014). "An analysis of grades 7 and 8 physics text books: a quantitative approach". *American journal research* vol. 2 No. 1. 44-49.doi : 10, 12691 / education-2-1-8.

[19]   Morin, E. (2014). *Teach to live, manifest to change education*. South Acts / Play bac. France.

[20]   Morin, E. (1999). *The seven knowledge necessary for the education of the future*. Ed. Du seuil. France.

[21]   OECD. (2016). *Skills at the service of social progress. The power of socio-emotional skills.* Paris. OECD edition.

[22]   Simonneaux, J. (2011). "The Didactic Configurations of Socially Vivid Social and Economic Issues. Enabling memory to direct research ". University of Aix-Marseille, Marseille. http: //oatao.univ-toulouse.fr/5289/1/Simonneaux_5289. pdf.

[23]   Rogiers, X. (2003). *Situations to integrate educational achievements*. De Boeck University. 1st edition. Brussels