



Engineering Emotional Intelligence in Moroccan University

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ABSTRACT

The main objective of this article will be, first, to conduct an exploratory study of emotional intelligence among Moroccan University students. Then, we will try to propose a method of integration in the university curriculum of a basic training on emotional skills.

The main objective of this research is to initiate a training engineering in the field of emotional intelligence to equip the Moroccan student to integrate the job market, particularly the computer professions constantly subject to various hazards.

To do this, we have designated a student population that will be subject to Schutte's questionnaire to identify their needs in this regard. Then, another restricted population will take a pretest to evaluate their emotional profile. The ultimate phase of this study will involve this small population in a program of activities aimed at making them aware of the decisive impact of emotions on their socio-professional life and helping them to develop emotional skills.

Key words - Emotional Intelligence, Engineering, Emotional Skills, Awareness, Computing Professions.

1. INTRODUCTION

Emotions and their impact on human behavior in social and professional settings make one of the favorite themes of current research in psychology. Starting from my pedagogical vocation since I have been exercising for more than twenty years in the field of university education and professional training, my study will be conducted in 3 phases:

1- First, introducing the topic of emotional intelligence by providing a number of basic information on the subject. 2-

Involving the population of students in a series of activities that would make them discover their emotional profiles and the influence of emotions on their behavior. 3- Drawing the primary conclusions that will emerge after this practical phase.

That being said, Salovey and Mayer [1] as well as Daniel Goleman [2] remain essential in this area; their main contribution being that they have dissected and converted the emotional intelligence into basic skills: It is primarily a matter of listening to one's own emotions, making them allies and exploiting them in the process of choosing the behaviors to adopt. This is because emotionally intelligent people are better able to build strong relationships and make their lives very fertile in experiences.

Like many creatures, humans, though endowed with reason, are also emotional beings. Feelings and moods shape their attitudes, motivations and behaviors. For Goleman [3], humans would have an emotional brain, in addition to the rational one.

Emotions often arise in response to stimulating events that continue to cross our lives. The actions and behaviors of others often push us to interact and these emotions arise in short cycles that start and stop suddenly.

With the help of our thinking tool (the rational brain), they control the decisions we make and the behaviors we adopt. Yet, in this respect, they can disrupt our ability to objectively read the events we are experiencing and, consequently, to make the right decisions, especially in stressful situations.

Some researchers [4] have emphasized the decisive role of emotion-based intuition in the decision-making process, however simple these decisions are. Studies on people whose neo cortex and limbic system have been

damaged have shown that they have great difficulty making good decisions, or even making any at all.

Without the intuitive signals that guide most of us through decision-making situations, called by Damasio [5] "somatic markers" or visceral ones related to past experiences, these people are totally dependent on a logical process that can not assign emotional values to the different possibilities of behavior offered to them. Thus, emotionally helpless or unconscious, they find themselves faced with a varied palette of daily decisions they must make. As a result, they are easily displeased and unwilling to make good choices, being driven by a selective experiential map.

Furthermore, emotionally unconscious people face many challenges when trying to interpret and use their feelings. In emergency situations where our survival is threatened, our immediate response of "fighting or fleeing" is well assimilated and effective. In a context that is foreign to us, we are affected by an intense negative or positive emotion and by the impulse it produces, and often we act accordingly.

Our actions are most often appropriate and, in such intense situations, our feelings can be of great help since they help us to mobilize all our attention and all our resources to support our nervous system.

Working together with the rational brain, they help us make sense of what is happening to us and give us the opportunity to produce an intelligent response. For some people, strong emotions are stimulants to impulsive actions that they will regret later. Thoughtful thinking, reinforced by emotion in a relaxed situation, can be paralyzed if the context is very tense. In a highly emotionally dense state, we tend to interpret new events through a "humoral filter" and therefore react to a biased interpretation of events. Goleman calls it "Emotional Hijacking", [6] when the rational brain is under the influence of the emotional brain.

As a result, an emotionally intelligent person is, inter alia, one who has learned to check his reading of events and thus his impulses and to use the information provided by emotion to shape his behavior and his responses in stressful situations [7]. Goleman says that awareness of one's emotions is one of the foundations of emotional intelligence: it consists of the ability to turn off one's bad mood or keep one's good mood and handle new situations by keeping watch over one's emotions.

Therefore, understanding emotions and learning how to use them is a process in which we freely feel an emotion, recognize and immediately verify an impulse and then

choose an action that will allow us to emerge as a winner from the stressful situation. The determining factor of this exploitation is the awareness of the feelings and the impulses, the recognition of the factors which caused them, such as the choice of behaviors responding to the situation. This instant process can help us achieve good results and avoid actions that we may regret later [8].

Learning to make good use of one's emotions is a skill that is acquired as one accumulates experiences and hardships. However, some people never acquire this skill and remain trapped in their fluctuating emotions. Others have excessive self-control and find themselves in a state of discouragement restraining them from taking action. Experts in emotional management know how to listen to their emotions and use them both as a driver and as a guide for decision-making or behavioral selection. Extreme feelings can trigger extreme actions but an expert knows how to restrain himself and opts for a well measured response.

2. METHODOLOGY AND RESULTS

2.1. Participants and procedure

The study included a mixed population of 135 students from the High School of Education - Casablanca and was spread over the second semester (January - May) of the academic year 2017-2018. Our first observation was that the number of girls is way more important than the number of boys, with a rate of 71,2%. Almost all of the participants hold a high school degree in science divided into two streams: the bachelor's degree in mathematics and the teaching of French.

The study participants come from several cities of Morocco, mostly from Casablanca (68.6%). Most of them (64.9%) have 2 siblings and almost all of them come from stable families (90%). The age of those students varies between 17 and 20; most of them are 18 years old. figure 1 shows study population.

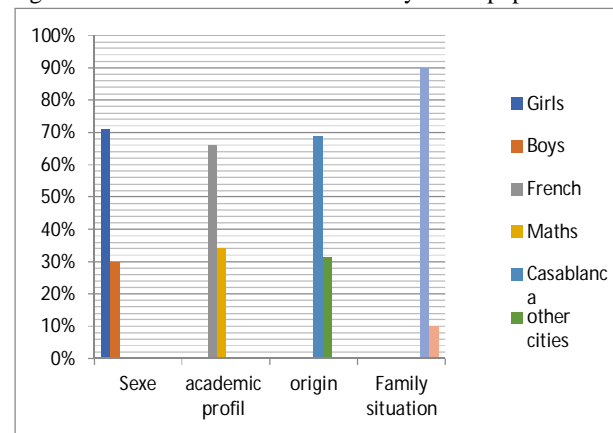


Figure 1. Study Population

2.2 Instruments

1. *Shutte's Emotional Intelligence Test*: There are several choices we have to make in assessing the emotional competence of the designated population. After reviewing several measuring instruments, we opted for the Schutte test which, since its publication by the Australian psychologist Nicolas S. Schutte in 1981, has gained a scientific notoriety. Schutte's Emotional Intelligence Test evaluates basic emotional skills as defined by Peter Salovey and John Mayer [9].

According to this model, emotional intelligence is composed of three types of abilities:

- a. Perception and appreciation of one's and others' emotions (including empathy) and their expression;
- b. Management or regulation of one's and others' emotions;
- c. The use of emotions in problem solving.

Several research leads presented themselves to us once the results obtained, notably in terms of correlation between the variables recorded in the population (gender, origin, sector, etc.). However, we devoted ourselves to examining the overall scores to deduce a weakness in the mastery of the skills mentioned above. That being said, since the ultimate goal of our study was to subject a student population to a program of emotional intelligence, we kept this fact, as a first step, and moved on to the second phase of the research.

The first results show average scores that show a fairly week mastery of the skills mentioned.

Pre-test of evaluation: We selected from this same population a group of 40 students aged 18-19 years that we divided into 2 subgroups of 20 people each: an experimental group and a control group. During the training phase, the experimental group should have a training program on emotional skills of identification, comprehension and regulation of emotions while the control group will have regular academic sessions.

We therefore submitted the first group to the self-assessment pre-test borrowed from Martine Eva Launet and Céline Peres-Court [10] and whose objective is to help the respondent know his emotional profile, to define the fields to be developed, and to anchor his knowledge in this area. It consists of giving a score on Likert scale from 1 for "almost never" to 6 for "almost always" to the 30 statements proposed by the authors and relating to the five areas of emotional competence designated by them. Table 1 shows descriptive statistical characteristics of the 5 emotional skills

Table 1. Descriptive statistical characteristics of the 5 emotional skills

	N	Minimum	Maximum	Arithmetic mean	Standard deviation
Understanding emotions	25	14	36	26,36	±5,830
Living emotions	25	14	35	26,04	±5,176
Openness to others' emotions	25	14	36	26,00	±5,508
Expressing and sharing emotions	25	13	36	27,04	±5,420
Managing emotions under tension	25	10	33	24,24	±6,722
Total score / 180	25	73	175	129,68	±22,205

N: number, the Standard Deviation is the variation of 68% compared to the arithmetic mean of the score

Our first finding is that the arithmetic mean recorded by the population for each skill hovers between 20 and 30, marking the existence of an important emotional capital. In fact, the population is homogeneous around 4 of the 5 emotional skills mentioned above. The lowest score was recorded for managing emotions under tension with a much higher standard deviation, which explains the disparity observed for this dimension. Table 2 represents relationship between the scores of the 5 emotional skills

Table 2. Relationship between the scores of the 5 emotional skills

	Understanding emotions	Living emotions	Openness to others' emotions	Expressing and sharing emotions	Managing emotions under tension	TOTAL
Understanding emotions	1					
Living emotions		1				
Openness to others' emotions			1			
Expressing and sharing emotions				1		
Managing emotions under tension					1	
TOTAL						1

Understanding emotions	p						
Living emotions	r	,787**	1				
	p	,000					
Openness to others' emotions	r	,581**	,570*	1			
	p	,002	,003				
Expressing and sharing emotions	r	,572**	,720*	,455*	1		
	p	,003	,000	,022			
Managing emotions under tension	r	,443*	,466*	,203	,333	1	
	p	,027	,019	,331	,104		
TOTAL	r	,864**	,898*	,706*	,776**	,659*	1
	p	,000	,000	,000	,000	,000	

** The correlation is significant at the 0.01 level (bilateral). * The correlation is significant at the 0.05 level (bilateral).

Skill 1 is strongly correlated with the 4, especially skill 2 with a correlation coefficient $r = 0.787$, $p = 0.00$. Overall, it takes a correlation coefficient approaching 0.864; that is to say that she, in fact, commands the other four.

Concerning the link between skill 2 and skill 4, we find a strong correlation with a score of $r = 0.720$, $p = 0.00$; which means that the emotional experience goes through sharing and expressing emotions with others.

In addition, we find that the skill of openness to others' emotions is not correlated with any other skill in the study population.

As for the skill of expressing and sharing one's emotions, it is in fact the translation of that of understanding one's emotions, on the one hand, and that of living them, on the other.

Exceptionally, skill 5 (managing emotions under tension), recorded the lowest correlation score with the first two ones. Its correlation score with the other two is totally absent.

Our conclusion in this respect is that the first two skills of understanding and experiencing emotions are predominant in the study population. The fact that it recorded the highest correlation scores with the others explains the overall score recorded which is close to $r = 0.9$ with $p = 0.00$.

3. *Report and preliminary interview.* On the basis of the scores recorded, then the students were asked to write a short report on their emotional profile.

Based on a questionnaire on the 5 key competences of the emotional intelligence, 21 participants produced empirical self-diagnoses in the form of texts ranging from 2 to 50 lines and which reflect their perception of their temperament. Subsequently, 8 students from this group were randomly selected for a semi-directive interview about the narration of events in their private life and the description of the emotional impacts of those events and their management methods in this area. In these interviews, we opted for open questions asked in French and in dialectal Arabic. This mode usually allows respondents to express themselves more freely on a given topic than closed questions.

Our corpus having been thus constituted, the data were processed following the different stages of the content analysis recommended by Klaus Krippendorff [11].

First, the raw data of each interview was coded in concise, easily identifiable terms relating to the lexical field of "emotions" (giggle, cry, worry, burst in tears, deep fear, etc.). Then, we defined the unit of analysis related to the theme of our research, namely the 5 key competences of emotional intelligence. A diagonal reading of each text of the corpus allowed us to elaborate a grid of sub-themes evoked by the participants in their answers. These sub-themes were subsequently coded according to their frequency of occurrence and the direction of the theme; that is to say according to the degree of control by each participant of each of the components of the predefined emotional skills.

The coding of each interview being finished, we got a long list of themes (Ex: Vague emotions, unstable mood, isolation, flight response, optimism, atmosphere of love, etc.). We then grouped these themes into five thematic categories that were close together and defined as exclusive; this will then allow us to calculate the frequency of citing these themes by the respondents.

36% of the population have a strong mastery of the first skill (understanding one's emotions) while 64% have a low score in this area. The competence 2 "living one's emotions" is strong in 16%, low in 38%, and very low in 23% of the population while skill 3 varies between high (61%), low (16%), and very low (23%). The score recorded by the respondents for skill 4 ranges from 60% having strong mastery and 40% having low proficiency.

Finally, 33% of the interviewees expressed a strong tendency towards mastering the 5th skill while the remaining 63% are equally divided between a weak and a very weak mastery of this same competence.

We conclude that the results generated by the analysis of the corpus made up of both the reports and the interviews

of the students come to mitigate those of the pretension mentioned above.

And for good reason, the blatant mastery of the first two skills deduced from the pretest was denied by the report and the interview. Which leads us to confirm the conclusion deduced from the results of Schutte test namely the general lacking mastery of the basic skills of emotional intelligence.

3. *Module: Emotional Intelligence* © FORA Center [11, 12]: An in-depth research of programs related to the theme of our study allowed us to be aware of the practice on the ground. Thus, several European and American states (Sweden, Canada, United States, etc.) have taken the measure of the impact of emotions on the development of personality of their citizens from their very early age, and therefore of their decisive contribution in the choice of their future career as well as their social profile. Therefore, and in order to prevent disabilities at this level and to prepare individuals to face everything in life.

As a result, and in order to prevent disabilities at this level and to prepare and equip individuals with tools to cope with future challenges, they have integrated personal development training programs with elements of emotional education into school curricula and adult education.

Our choice was focused on Emotional Intelligence module of the FORA Center which is consistent with the founding principles of the Ontario-Canada Adult Literacy Curriculum (OALCF).

As we progress through the module, our student population should see an improvement in their core emotional skills through 18 tasks accompanied by learning activities according to a predefined progression.

Each learner will be required to keep a personal diary to help them keep track of their efforts throughout the course and their progress.

An introductory session was devoted to the presentation of the topic by discussing with the members of the group about their emotional experiences and their impact on their behavior.

The 18 tasks in this program are articulated according to the 5 basic emotional skills and are linked in a gradual way and lead ultimately to a fairly advanced level of emotion management. These tasks have to be accomplished either individually, in pairs, or in small groups. Some of these tasks require some thinking over situations and instances to study, while others call firstly

for visualizations or simulations, then debates and findings.

3. DISCUSSION

We must, first of all, insist on a major premise that has guided us throughout this study: It is to avoid, at all costs, transforming it into an exploratory research of psychological failures of our target population. And although considerations of psychological nature have influenced our approach, the latter is by no means psychotherapeutic.

That being said, a preparatory psychic preparation was needed. Based on the observation that these students needed to be well settled in a climate of mutual trust before they would easily share their ideas and personal feelings, I devoted myself throughout the previous semester to open up to them and share with them some of my experiences in this area. And being aware that exploring emotions in the classroom can be risky because they may emerge from both sides during the process, I got prepared to react tactfully.

Initial feedback from trained students shows a growing awareness of perceived weaknesses in emotional skills. We cannot draw any hasty conclusions, but the first activities already show us that little progress has been made by the students in identifying their feelings. The final conclusion on the actual level that will be reached by the participants can only be made once the training module is completed.

The first elements resulting from this study show us how integrating emotional intelligence into classroom activities should allow students to: a) see how different emotions can affect their impulses and behaviors b) be able to compare their behavioral tendencies with those of others c) experiment with some methods of responding to a strong stimulus.

4. CONCLUSION

Given that we live in a highly tensed up world, our Moroccan students are every day subject to overflowing pressures, impacting them emotionally and pushing them to display disproportionate reactions to whatever situation they might encounter. This could lead to misunderstandings, if not continuing conflicts.

In the short term, the learning process is impacted with the difficulties they are constantly confronted to, because of their recurring emotional short circuit.

A statement confirmed by this preliminary study which allowed us to maintain our initial conviction: The need to

integrate emotional intelligence training in the Moroccan university curriculum, all sectors combined.

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