Middle-East Journal of Scientific Research 18 (9): 1322-1329, 2013

ISSN 1990-9233

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DOI: 10.5829/idosi.mejsr.2013.18.9.12372

# **Emotional Intelligence of Students in Smart School**

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**Abstract:** Nowadays, the global investment and the current governments' regulations demand that school policies improve students' achievements in class. This project examines smart schools' role on emotional intelligence of students in smart schools of sari. The methodology of this research is descriptive (interventional-case type) and we gathered data by using emotional intelligence Standard inventory of Bar-on and based on a pre- and post-test. Its statistical universe includes all students in the smart schools of sari (N=200); they were selected as research sample by census. We analyzed data by T-test. The results show that the smart schools influence on development and improvement of emotional intelligent components (interpersonal, intrapersonal, adjustment, will and control, general temperament).

**Key words:** Smart schools • Emotional intelligence • High school students

#### INTRODUCTION

Entrance to information age and currency of web-technologies has led to form new jobs which will need to computer- based knowledge and skills. Entrance to the present age needs to a new education which it isn't in agreement with the traditional education in today Iran schools. On the other hand, other countries have founded Electronic schools which are named as »smart schools« in Iran. The initial model of these schools backed to the year of 1996 from England and Malaysia is considered as one of the pioneers in established such these schools [1]. In smart schools, computer effects on teaching manner and evaluation and relatively changes the curriculum, while the social applications of schools still remain; because it can help students in social communication. In smart schools, students learn how process a large amount of information and use them in the way of learning more. In addition, students can communicate with world scientific sources and with teachers and students of other schools [2]. In fact, the traditional role of teachers who were considered as the main source of knowledge and its providers, changes to some leaders who guide student to self-learning and facilitate their access to various knowledge sources. Teachers show to students how learn and how use from

their learning to improve their life quality (Malaysia Education, 1997), [3].

Smart schools will bring out a great change in educational system, such that students will able to use information technology in all educational fields, such as management and curriculum. The final goal of establishing intelligent school is training a work force equipped with computerized skills and informational literacy by which they can meet life needs in modern informational world. The approach of smart schools is a comprehensive and combining form. It is comprehensive; because it tries to provide an opportunity for multilateral growth of students' abilities by different learning methods and using multimedia instruments (visual, verbal, auditory and practical) for meeting students' needs. It is combining; because it tries to make an efficient educational system by combining curriculums and learning methods, instead of using one instrument in information technology. In addition, smart schools' educational model requires to students' active participation. Smart schools are some places for cooperation and competition and educational materials and practices have been designed for expanding these skills in students. On the other hand, smart schools include some correlated components which have been designed for motivating students' curiosity and their active participation [4]. Emotional intelligence

is an effective and determinative factor in our real life resultants, such as success in school and education, success in job and personal communications and generally in our healthy reactions (Ciarroch et.al, 2006). In recent decades, emotional intelligence and its various attractive aspects have attracted the attention of the public as well as psychologists and psychiatrists. The concept of emotional intelligence was firstly used in 1940s. After that, Mayer and Salovey described about the term "intentional role" in forming the theory of "multiple intelligence" of emotional intelligence. With his effective model "multiple intelligence, Gardner had a great role in forming the theory of "emotional intelligence". According to Gardner's multiple intelligence theory, there are two main intelligences:

First, one's internal intelligence and knowledge which can lead to identify and distinguish human's complex feeling and second, knowledge and awareness in interpersonal communications which can provide the ability to identify and distinguish others' emotions and motivations. Finally, Daniel Goleman widely introduced this concept in the best book of 1995, by the name of ((Emotional Intelligence)) [5]. Emotional intelligence leads to process such information which has emotional and using them is necessary for guiding cognitive activities, such as problem solving and focusing energy on necessary behaviors [6]. Those who use their emotional intelligence are more harmonious with their surroundings, show higher self-confidence and are aware of their abilities [7]. Emotional intelligence has some social, cognitive and biological advantages. Projects have showed that those who have higher emotional intelligence have lower levels of stress hormones and other indicators of emotional activation. Those children with better emotional competence have more ability for considering problems and using problem-solving skills; this will lead to increase their cognitive abilities. One's success whether in school or later years in university isn't only dependent on his IQ (intelligence quotient), but it relates with emotional and social skills, such as having enough motivation, the ability for waiting, following orders and controlling impulses, asking help from others and stating emotional and educational needs [8]. Today, science has realized the power of human's mental emotions and now it has being found and established the status of emotions and feelings in human's activities, behaviors, movements and its personality. In intelligence studies, the trend is from logical intelligence (based on cognition) toward emotional intelligence. Emotional intelligence tries to explain the status of emotions and feelings in human's abilities [9].

Literature Review: The objective of our country education is multilateral educating (intellectual, physical, emotional and social growth) of students in a manner that while they accept Islamic, Iranian and moral norms, they also reach to their potential growth, become aware of world current matters and also become innovator and able in solving their society and their own problems and in creating a desirable future. In this way, »smart schools« idea or any other innovation becomes valuable, if it can help us to reach this objective. Youth elevation, development of the education and also national development is dependent on focusing on human force in the education. If we want to conceptualize» the education«, fertilize innovations, increase human force productivity and achieve to high objectives of performance, we should create an ideational change and a moral obligation in all individual authorities and executives of the education against the modern duty of the education in the today world and in uncertain future [10]. Most of traditional curriculum is based on the teacher and it isn't proportionate with students' talents, abilities, needs and learning methods which are different in each of them. Smart schools can be effective on removing or reducing educational gaps due to flexible curriculums, teaching with new methods, a wide range of educational programs and methods and focusing on students' role [11].

Emotional Intelligence: with considering emotional intelligence features and functions, authorities have presented different definitions: Goleman: emotional intelligence is the ability to identify other's and our emotions and feelings till by them, we able to communicate with other effectively in the work place [12]. Mayer &Salovey: emotional intelligence is the ability to evaluate, state and regulate others' and our emotion and effective using of them [13]. We can find the scientific backgrounds of emotional intelligence in Thorndike's» intelligence theory« (1920), this theory relates with the ability to understand oneself and other, cognition of our emotion and feelings and harmony with other people and surroundings. Bar-on was the first person who used emotional quotient for assessing non-cognitive abilities and provided the first related test in 1980. Finally, two American Psychologist, Salovey and Mayer (1990), introduced an acceptable definition about emotional intelligence in an article with the same name. In that article, they considered emotional intelligence as a scientifically and intelligently measurable and testable thing [12]. These two researchers applied the term» emotional intelligence« as a social intelligence form which includes the ability to control others' and our emotions and feelings and also the ability to distinguish between them and using such information as a guide for one's thought and behavior [14].

Emotional Intelligence Components: Bar-on (1997) [15] has developed a multi-factor model for emotional intelligence. On the other hands, emotional intelligence has factorial dimensions. He believes that emotional intelligence is a set of abilities and skills which equips the person for effective adjustment with surroundings and succeeding in his life. According to Bar-on, emotional intelligence includes 5 general categories and 15 components:

- Intrapersonal emotional intelligence: this category consists of these components: emotional awareness, self-respect, incisiveness, self-realization and independence.
- Interpersonal emotional intelligence: it consists of these components: empathy, responsibility and interpersonal communications.
- Anti-stress emotional intelligence: it consists of stress tolerance and impulse control components.
- Adjustment emotional intelligence: it consists of reality testing, flexibility and problem-solving components.
- General mood emotional intelligence: it consists of optimism and happiness components [15].

In fact, research has showed that cognitive intelligence isn't the only factor in determining and predicting success and prosperity. Many persons with high cognitive intelligence are perplexed in their life, while many people with lower cognitive intelligence was able to succeed. Maybe we know some intelligent persons who aren't success in their social life because of their own social incapability or lack of motivation and it is likely that persons with normal general intelligence and with dependence to their abilities can reach to high social and vocational situations and high successes [16]. With increasing behavioral and emotional problems- from low self-confidence to depression and anxiety in children and Youth, many parents and scientists and researchers through the world consider teaching essential emotional intelligence skills to students and children as a necessary matter. These skills will lead to increase adaption and success in high risky situations [17]. So far, there has been much research about assessing emotional intelligence and its dimensions and its relation with other variables. For example, Sivanathan and Fekken (2002) [18] studied on the relation of leadership and emotional intelligence, Langhorne (2004) [19] studied on the relation of manager's performance and emotional intelligence, Schutte et.al (2007) [20] studied on emotional intelligence in mental health, Parker, J. D et.al (2004) [21] and Pertridset.al (2004) [22] studied on the relation of emotional intelligence and academic achievement, Gardner and Qualter (2009) [23] studied on the relation of emotional intelligence and border personality disorder, Zeidner and Kaluda (2008) [24] studied on the relation of emotional intelligence and the love between young spouses and Kafetsios and Zampetakis (2009) [25] studied on the relation of emotional intelligence and satisfaction. But, there has been no research about the role of smart schools in students' emotional intelligence which is a new field and subject. We can't exactly realize that what learning process and educational systems can effect on emotional intelligence. So, the objective of this project is examining the role of smart schools on students' emotional intelligence.

## MATERIALS AND METHOD

The method of this research is interventional-case study and in the descriptive form. In other words, the main design of this research has been based on pre-test and post-test and the considered intervention has been studied in a smart school which was established according to defined standards of Mazandaran education.

**Statistical Universe and Sample:** The statistical universe was all students in smart schools in sari. In the present research all students in one smart school, (N=200) were selected by one case study in the education year 2011-2012.

Regarding that the mentioned students haven't had any experience about smart schools, so we selected all samples (n=200) from first-graders and in the beginning of their entrance to high school, by using the method of census.

**Data Gathering Instruments:** Bar-on was the first person who used the emotional quotient inventory (EQ-I) in 1997. It included 133 items and the answers were designed on a five-point Liker scale (perfectly agree, agree, relatively agree, disagree, perfectly disagree). This test includes five compound factors: interpersonal relations composition, intrapersonal relations composition, stress-copying composition, adjustment composition, general mood composition and also it includes 15 sub-scales: emotional self-consciousness, self-assertion, self-respect,

self-realization, dependence, empathy, interpersonal relations, social responsibility, problem-solving, reality testing, flexibility, stress tolerance, impulse controlling, happiness and optimism. The scoring manner is done from 5 to 1 (perfectly agree=5, perfectly disagree=1) and sometimes is done reversely (Perfectly agree=1, perfectly disagree=5). Bar-on calculated the reliability of this inventory in seven samples of different populations by retest method and with a one-month interval. The mean of Chronbach alpha coefficient for all sub-scales was in the range of 69% (social responsibility) to 86 %( self-respect), with the mean of 76 % [16].

Administration: For collecting raw data, researchers attended in students' class in a three- month interval and with informing authorities of school. Firstly, they stated the objectives of the project implicitly and then explained about the manner of answering to questions. Then, they distributed the inventories and asked students to answer them and ask from researchers about those ambiguous questions. Researchers controlled over students' responsiveness during performing the inventory and if necessary, answered to their questions with providing enough explanations and solved their problems.

The Method of Data Analysis: Regarding executed pre-test and post-test, the scores of pre-test were added together and compared with the scores of post-test. It should be noted that these scores are analyzed in five components. Our research data was collected by SPSS software and pre- and post-comparison were done by T-test.

#### RESULTS

**Describing the Variables:** For testing our research hypothesizes, firstly our variables' descriptive statistics (mean and standard deviation) should be examined.

As you can see in tables 1 and 2, the mean value of all emotional intelligence components has descriptively showed a significant increase after three month educating in a smart school.

**Hypothesis Analysis:** The aim of this research is examining the role of smart schools in students' emotional intelligence in a smart school of Sari. So, each hypothesis was analyzed by using T-test (Independent-Sample T-test) and in terms of the nature of the cases.

For testing above hypothesis, firstly we compared the mean scores of each emotional intelligence component before and after educating in smart schools in two different groups. If there was a significant difference between the means of these two groups, above hypothesis was accepted or failed.

**First Hypothesis:** There is a relation between smart schools' function and improvement of personal intelligence (in terms of intrapersonal emotional intelligence). Regarding that  $t_{calculated}$ =3.35, in level of confidence=95% ( $\alpha$  = 0.05) and with degree of freedom (df) =199 is bigger than  $t_{crittcal}$ =1.970, then null hypothesis is failed and our hypothesis is accepted. So, we can conclude that smart school's function has an effective role on improvement of personal intelligence (in terms of intrapersonal emotional intelligence). In fact, above result

Table 1: The mean and standard deviation of emotional intelligence components (before education in a smart school)

Main Variable	Emotional intelligence components	Sub-components	The mean of responses	Standard deviation	Mean of sum	
Emotional intelligence	Intra personal skills	Emotional self-consciousness	3.48	0.75	3.42	
		assertiveness	3.41	0.83		
		Self-respect	3.35	0.69		
		Self-realization	3.44	0.77		
		independence	3.31	0.79		
	Inter personal skills	empathy	3.44	0.84	3.35	
		Social responsibility	3.27	0.69		
	Tensions coping	Impulse controlling	3.36	0.59	3.29	
		Tension controlling	3.32	0.84		
	Adjustment	Reality-testing	3.40	0.95	3.36	
		flexibility	3.32	0.86		
		Problem-solving	3.36	0.88		
	General mood	optimism	3.44	0.70	3.39	
		happiness	3.34	0.73		

Table 2: The mean and standard deviation of emotional intelligence components (after three month educating in smart schools)

Main Variable	Emotional intelligence components	Sub-components	The mean of responses	Standard deviation	Mean of sum
Emotional intelligence	Intra personal skills	Emotional self-consciousness	3.66	0.86	3.78
		assertiveness	3.82	0.94	
		Self-respect	3.74	0.79	
		Self-realization	3.72	0.82	
		independence	3.84	0.86	
	Inter personal skills	empathy	3.83	0.93	3.86
		Social responsibility	3.91	0.86	
	Tensions coping	Impulse controlling	3.55	0.69	3.69
		Tension controlling	3.76	0.77	
	Adjustment	Reality-testing	3.77	0.91	3.73
		flexibility	3.65	0.89	
		Problem-solving	3.71	0.87	
	General mood	optimism	3.91	0.76	3.93
		happiness	3.95	0.83	

Table 3: The mean and standard deviation of emotional intelligence components (after three month educating in smart schools)

Emotional intelligence dimensions	Before and after educating	Mean	Standard deviation	$t_{calculated}$	df	α	p-value
Intrapersonal	Before educating	3.42	0.86	3.35	199	0.05	0.00
	After 3 months educating	3.78	0.75				
Interpersonal	Before educating	3.35	0.91	3.82			
	After 3 months educating	3.86	0.74				
Adjustment	Before educating	3.36	0.82	3.25			
	After 3 months educating	3.73	0.71				
Tensions coping	Before educating	3.29	0.79	3.57			
	After 3 months educating	3.69	0.73				
General mood	Before educating	3.39	0.74	3.39			
	After 3 months educating	3.93	0.84				

t=1.97

shows that the educational method of smart school has a significant positive effect on improvement of personal intelligence (in terms of intrapersonal emotional intelligence); this suggests the preference of this method over other traditional educational methods.

**Second Hypothesis:** There is a relation between smart schools' function and improvement of personal intelligence (in terms of interpersonal emotional intelligence). Regarding that  $t_{calculated}$ =3.82, in level of confidence=95% ( $\alpha$  = 0.05) and with degree of freedom (df) =199 is bigger than  $t_{critical}$ =1.970, then null hypothesis is failed and our hypothesis is accepted. So, we can conclude that smart schools' function has an effective role on improvement of personal intelligence (in terms of interpersonal emotional intelligence). In fact, above result shows that the educational method of smart schools has a significant positive effect on improvement of personal intelligence (in terms of interpersonal intelligence), this

suggests the preference of this method over other traditional educational methods.

Third Hypothesis: There is a relation between smart schools' function and improvement of students, personal intelligence (in terms of adjustment factors of emotional intelligence). Regarding that  $t_{calculated}$ =3.25, in level of confidence =95% ( $\alpha$  = 0.05) and with degree of freedom (df) =199 is bigger than  $t_{critical}$ =1.970, then null hypothesis is failed and our hypothesis is accepted. So, we can conclude that smart schools' function has an effective role on improvement of personal intelligence (in terms of adjustment factors of emotional intelligence). In fact, above result shows that the educational method of smart schools has a significant positive effect on improvement of personal intelligence (in terms of adjustment factors of emotional intelligence), this suggests the preference of this method over other traditional educational methods.

Fourth Hypothesis: There is a relation between smart schools' function and improvement of personal intelligence (in terms of controlling factors of emotional intelligence tensions). Regarding that  $t_{calculated}$ =3.57, in level of confidence = 95% ( $\alpha$  = 0.05) and with degree of freedom (df) =199 is bigger than  $t_{critical}$ =1.970, then the null hypothesis is failed and our hypothesis is accepted. So, we can conclude that smart schools' function has an effective role on improvement of personal intelligence (in terms of controlling factors of emotional intelligence tensions). In fact, above result shows that the educational method of smart schools has a significant positive effect on improvement of personal intelligence (in terms of controlling factors of emotional intelligence tensions), this suggests the preference of this method over other traditional educational methods.

**Fifth Hypothesis:** There is a relation between smart schools' function and improvement of personal intelligence (in terms of general mood of emotional intelligence). Regarding that  $t_{calculated}$ =3.39, in level of confidence=95 % ( $\alpha$  = 0.05) and with degree of freedom (df) = 199 is bigger than  $t_{critical}$ =1.970, then the null hypothesis is failed and our hypothesis is accepted. So, we can conclude that smart schools' function has an effective role on improvement of personal intelligence (in terms of general mood of emotionalintelligence).

In fact, above result shows that smart schools' educating has a significant positive effect on improvement of personal intelligence (in terms of general mood of emotional intelligence), this suggest the preference of this method over other educational methods.

## **DISCUSSION**

Regarding that any inside and outside research about this project hasn't been observed yet, this project is among the first research about this field. According to executed projects, smart schools' function effects on students' emotional intelligence, this can be a background for future research in this field. The smart school is a new educational approach which with combining information technology and curriculums will significantly change the learning and teaching process. In this approach, teacher role will change to a guider, not a person who only transfers knowledge, student role will change to an active, critic, creative and participative member, not an inactive member and the consumer of knowledge and the evaluation system will change to a process- based, not a

result-based system [26]. Regarding Iran's 1404 perspective which is based on a fundamental change in the education system, with the aim of its qualitative advancement according to our country's needs and preferences in three fields of knowledge, skills and education and increasing students' mental, physical and psychological healthy and also focusing on using communications and information technology educational technology in all processes to electronically facilitate educating and lessons of academic courses, considering smart schools' effects on students seems very important. Modern technologies increase classes' efficiency and creating a continuous learning method for students and formal and informal learning out of classes becomes possible. So, we should prepare the way for enjoying from such these technologies in our education system by creating necessary and enough preparations [27, 28]. School's social space is a small sample of our society's social system. The established communications between students with teachers and with their classmates in schools have a basic role on acquisition of some fundamental social attitudes, beliefs and values and on student's understanding from the society and their surroundings. School is one of the important contexts of learning emotional Skills. Emotional educating can be done by a range of efforts, such as: class educating, make-up activities, school's supportive situations and getting involved of students, parents and teachers in social activities. If socialization process and development of emotional skills in a primary environment (family) isn't desirable, so it is possible that schools can recompense these deficiencies by reparative educations. Thus, many teachers and psychologists have stressed on focusing on and development of educating the social and emotional skills in schools. Having social skills and emotional intelligence are necessary for today life. This necessity becomes more noticeable especially for youth ages in which persons face with various situations. In this area, school and teachers have a significant role. A person who is educating, not only should able enjoy from his scientific learning, but also he should perform his social duties as a citizen and know that which behavior is desirable and which one is undesirable in social communications and in emotional and mental relations and in special situations.

### **CONCLUSION**

Regarding the results of this research, i.e. supporting the effect of educating in smart schools on five components of emotional intelligence, we suggest that:

- As soon as possible, Mazandaran's schools go toward being smart.
- All educational grades should develop to being smart.
- Before entrance to educational grades, all students attend in emotional intelligence test by educational psychology.
- Emotional intelligence components as an important title should be included in relearning programs of schools' teachers, staffs and headmasters.

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