

Full Length Research Paper

Analysis of the Turkish pre-service teachers' views on the theory of multiple intelligences

Burhan AKPINAR and Yunus DOĞAN*

Firat University, Faculty of Education, 23119, Elazığ, Turkey.

Accepted 3 November, 2011

This paper aims to determine the Turkish pre-service teachers' image of multiple intelligences theory (MIT). For this purpose, a questionnaire was administered to a total number of 539 pre-service teachers still receiving education at education faculties of various universities in Turkey. The data gathered was analyzed with percentage, frequency and Chi-square test techniques. According to the findings, while the pre-service teachers find MIT scientific and useful, they do not approve of its featuring the theory of evolution. The pre-service teachers who do not know MIT sufficiently are pessimistic about its practicality in Turkey. Moreover, the pre-service teachers who think that the Turkish educational system is not independent are not uncomfortable with MIT, which itself is a foreign theory.

Key words: Pre-service Teachers, Multiple Intelligences Theory, Turkish Educational System.

INTRODUCTION

Multiple intelligences theory (MIT), which gained currency all over the world in the 1980s, became a part of the curricula constituting the backbone of the Turkish educational system (TES) together with a comprehensive educational reform made in 2004. The Turkish Ministry of National Education (MNE), the formal authority administering and leading the TES, incorporated MIT into the primary school curricula together with the student-centered education and constructivist approaches without ever subjecting it to any questioning and with the claim to make these curricula gain a modern qualification. Although, MNE defended this operation of its with the argument of "keeping up with the modern world", there were no clear data or reports showing that this theory was successfully implemented at the time (even today) (Waterhouse, 2006). Moreover, there were already literatures criticizing MIT throughout the world at that time.

Despite all these, the incorporation of MIT into the TES without any sound analysis can be substantially attributed to the external dynamics such as globalism and the

European Union (EU) (Tekişik, 2005; Yangın, 2005) and such internal dynamics as failed the existing educational system. Indeed, the TES, which is a huge sector with its approximately eighteen million students and eight hundred thousand teachers, had come to a deadlock during those days. There were already various comments on the collapse of this traditional educational system that was based on the society rather than the individual, and which was centered on the subject or the teacher instead of the student (Özden, 1999). The TES of that time, which showed a positivist and modernist character and which took the essentialism and the perennialism as its references, could not please anybody. The investments made in education in Turkey during those days did not return as added value and good citizens. The TES, which was far from being productive and functional in spite of consuming enormous resources, presented the image of a system which eliminated and alienated a significant part of the students from the system. At this point, where the TES reached the end of the road, MIT which was decorated with such egalitarian, attractive and warm messages as "there is room for everybody in education", appeared to be a solution. Another reason for the adoption of MIT by MNE without questioning is the submissive and emulative attitude is that "anything from the West is true", which is very common in the Islamic

*Corresponding author. E-mail: jonah.saidson@gmail.com. Tel: 00905056951325.

countries including Turkey and even in the third world countries. The writings of those academicians and writers who are not sensitive enough to the cultural codes of the country and to the issue of pedagogical independence, and who exaggerate MIT also played a part in the fast adoption of this theory.

The discussions on MIT, whose adventure of incorporation into the TES has been briefly summarized so far in Turkey started after this date, and are still going on. These discussions, especially carrying on in the academic circles, are going on two different lanes: one side supporting MIT and another side criticizing this theory. Those who support MIT in Turkey converge on the point that this theory has offered new insights into the TES. Their main argument can be summarized as, MIT is advantageous in caring for the individual differences and the equality of opportunities in education. Whereas, the main arguments of those criticizing MIT, parallel with the criticisms around the world, can be summarized as, MIT is not scientific (Gottfredson et al., 2004; Willingham, 2004; Traub, 1998; Aiken, 1997; Smolucha, 1993; Brody, 1992; Richardson, 1991), it confuses intelligence with abilities (Darius, 2008; Schaler, 2006; Arlı, 2004; Morgan, 1996; Klein, 1998; Peterson, 1997; Eysenck, 1994; Carroll, 1993; Sternberg, 1991) and it is not convenient for education (Selvi, 2011; Kincheloe, 2004; Sew, 2003; Delisle, 2001; Sempsey, 1993; Hirsch, 1988). In addition to these all, there are also criticisms that MIT was hastily put into practice without necessary background work in the TES. Another criticism of MIT in Turkey is that, MIT which is a foreign theory as of the cultural context in which it originated and of its sources of reference, is not appropriate for the TES in the way it is. And even some go on to describe such foreign and import models as MIT as the hegemony of the global powers to manipulate the TES (Özdem, 2008).

As it was pulled apart by especially the academicians in the course of time, the unknown dimensions of MIT, which was at first adopted without being known in detail and which was publicized as much as it does not deserve (Gür, 2006), began to emerge. And Gardner himself contributed to this process with latest books (Gardner, 2006) and speeches (Gardner, 2009). Thus, MIT does not seem as objective and innocent as it was before in Turkey and the Islamic countries. It is probable that MIT will receive serious criticisms throughout the world especially due to its materialist and evolutionary dimensions (Akpınar and Doğan, 2011). As a matter of fact, there began some serious criticisms of MIT in Turkey on account of the aforementioned dimensions of it and of its being an import theory. Turkish policy-makers cannot turn a deaf ear to these criticisms any longer. Hence, these criticisms have great significance in determining the future of MIT in the TES. Another point which is as important as these criticisms in determining the future of MIT in Turkey is the views of the pre-service teachers who will be the administrators and operators of the TES in the future on this subject. At this point, it is

crucial to know the Turkish pre-service teachers' views on MIT.

Purpose

This study aims to determine the views of the pre-service teachers receiving education at education faculties in Turkey on MIT.

METHODS

The population of this study comprises senior students studying at the educational faculties of Firat, İnönü, Kilis and Adıyaman Universities in various regions of Turkey during the academic year of 2010/2011. And the sample of the study consists of a total number of 529 pre-service teachers out of the population. It is thought that this number of the sample suffices to present the case in Turkey when the representation criterion of the sample according to Balci (1995) is taken into consideration. The distribution of the participants with respect to various variables is shown in Table 1.

The data in this study have been obtained by use of a two-part questionnaire developed by the researchers. The first part of the questionnaire consists of four questions about personal information, and the second part includes eleven likert questions about MIT. The validity of the questionnaire has been ensured based on the views of the relevant experts. And a factor analysis has been done for its reliability. For this factor analysis, a pilot scheme has been conducted to a total number of 170 students who are still studying at the faculty of education in Firat University, and who have not been included in this study; and as a result of this, the Kaiser-Meyer-Olkin (KMO) value of the questionnaire was determined to be 0.78, and its Cronbach alpha value was calculated to be 0.75. The factor loads of the items of the questionnaire change between 0.43 to 0.68. According to the relevant literature, taking these values into account it can be said that the questionnaire is valid and reliable.

The data in this study have been analyzed with percentage and frequency. And a Chi-square test has been used to examine whether there is a meaningful difference between the students' views and the variables. For this reason, the level of meaningfulness was established to be 0.05. The meaningful differences among the students' views with regard to the variables have been interpreted, if any; and the meaningless differences have not been taken into account.

RESULTS AND DISCUSSION

The participant pre-service teachers' views on MIT are shown in Table 2.

Pre-service teachers' views on multiple intelligences theory

On analyzing Table 2, it can be seen that the pre-service teachers find MIT useful in education (70.7%) and accept this theory as scientific (64.5%). It is understood that this optimistic view of the pre-service teachers' on MIT is mostly related to its dimensions that give individual differences prominence (64.8%) and offers equal

Table 1. Demographical information of the participant students.

Variable		N	%
Gender	Female	312	59
	Male	217	41
Department of study	Science and Technology Education	95	
	Mathematics Education	80	
	Social Sciences Education	171	
	Turkish Language Education	124	
	Classroom Teaching	13	
	Religion Education	46	
Habitation	City		
	Town		
	Village		
Family income	High		
	Average		
	Low		
	Very Low		
Total		529	100

Table 2. Distribution of the pre-service teachers' views on MIT.

Items	1(Yes)		2 (Partly)		3 (No)		Total	
	%	N	%	N	%	N	%	N
1-Do you think MIT is beneficial? (41)	70.7	374	25.5	135	3.8	20	100	529
2-Do you think MIT is scientific?	64.5	341	30.4	161	5.1	27	100	529
3- Do you think the fact that MIT gives individual differences prominence in education is okay? (40)	64.8	343	27.6	146	7.6	40	100	529
4- Do you think MIT offers equal opportunities in education? (44)	54.3	287	31	164	14.7	78	100	529
5- Are you familiar enough with MIT? (42)	25.1	133	56	296	18.9	100	100	529
6- Do you approve of MIT's featuring the theory of evolution? (38)	11.5	61	22.5	119	66	349	100	529
7-Do you think MIT can be implemented in Turkey ? (36)	39.7	210	42.9	227	17.4	92	100	529
8- Does MIT's being a foreign theory disturb you? (37)	14.6	77	30.8	163	54.6	289	100	529
9- Do you think MIT is the deception of the third world countries by the USA? (39)	16.8	89	40.8	216	42.3	224	100	529
10- Do you think the TES is independent? (34)	6	32	25.1	133	68.9	364	100	529
11- Do you think MIT was adopted without questioning in Turkey ? (43)	12.7	67	55.4	293	31.9	169	100	529

opportunities in education (54.3%). And these findings show parallelism with those research results which find

MIT beneficial (Bümen, 2002; Obuz, 2001; Burma, 2003). However, although there are serious criticisms of MIT

except for its aforementioned two dimensions in the USA and throughout Europe, this optimistic view of the Turkish pre-service teachers' on MIT is striking. This optimism about MIT can be due to the fact that these student teachers do not have a sufficient grasp of the psychological and educational literature of the world or the fact that they do not have enough knowledge about the details of this theory. Another possibility is that they are not informed about the criticism literature of MIT. The fact that the same student teachers have stated that they partly know MIT (56%), and the fact that they do not approve of MIT's featuring the theory of evolution (66%) just reinforce these possibilities. Another point also reinforcing these possibilities is the fact that the school textbooks, which are these students' main source of information about MIT, and the curricula of the faculties only give an introductory information about MIT by generally touching on its positive aspects and warm messages, but they do not give place to the criticisms of the theory. The fact that even though there are great and many serious criticisms of MIT in Europe and the USA, the relevant textbooks and the curricula in Turkey do not give place to them can be related to the monolateral trust, admiration and dependence that the Turkish academicians and writers feel scientifically towards Europe and the USA. As a matter of fact, the submissive and emulative attitude that "anything from the West is okay" is unfortunately very common.

It is interesting that these pre-service teachers are pessimistic about the applicability of MIT in Turkey (39.7%) while they adopt it and regard it as scientific. This pessimism can be related to the students' lack of self-confidence, which is quite common in Turkey. Another possibility for this is the insufficiency of background work for the implementation of MIT in the TES. In fact, the TES does not promise hope for the exact implementation of MIT because of the fact that the classes are crowded, there is lack of instructional materials, and the teachers lack various (multiple) teaching skills and multiple measurement and evaluation skills.

According to the Table 2, the participant pre-service teachers are not disturbed enough by MIT's being a foreign theory (54.6%) and they do not approve of (16.8%) the notion that "MIT is a deception of the third world countries by the USA", which is voiced in various milieus in Turkey. These findings can be interpreted as that the pre-service teachers do not share such doubts and worries of the various syndicates and academic circles as "MIT and similar foreign educational models are an imposition of the globalization and neo-liberal ideologies manipulating the TES" (Özdem, 2008). Indeed, the fact that the pre-service teachers are not disturbed enough by MIT, which is an import theory, reinforces this interpretation. In addition, the pre-service teachers' positive attitudes, though they do not think the TES is independent (68.9%), towards MIT which has many controversial aspects can also be related to the fact that

these students are not sensitive enough to the issue of the pedagogical independence. If this indifference of the pre-service teachers' to the issue of the pedagogical independence is not due to lack of information, this is an unacceptable result in terms of the full independence of a country, because the total independence of a country includes its independence in the fields of politics, economy, science-technology, culture, military and pedagogy as well. Thus, the responsibility that should be taken by the faculties of education and the relevant academicians and writers for increasing the level of awareness of the pre-service teachers', who will soon be one of the most important players of the educational field, for the pedagogical independence issue is great. Moreover, the skepticism in science is alone a sufficient reason for not accepting MIT with all its aspects. Above all, MIT as a theory that emerged based on largely the ideas of one person (H. Gardner), and that has developed as a product of the history and culture of the West and the USA only and has not received enough acceptance in the scientific world (Traub, 1998) does not deserve being completely adopted at all. Actually, when the subject is dealt with from two dimensions as those approving MIT and those criticizing it, it will be observed that the researches and writings which reveal that MIT is not scientific and true are not less than the ones that reveal it as scientific and useful (Waterhouse, 2006).

In conclusion, in this study, it has been understood that the Turkish pre-service teachers do not agree with the doubts and worries felt by various milieus about MIT that is a part of the TES. On taking into account the fact that the pre-service teachers partly know MIT (56%) and they think this theory was adopted without any inquisition (67%), it can be concluded that the optimistic attitude of the pre-service teachers' towards MIT does not mean that this theory is very good one, but it rather reflects their superficial viewpoints.

Assessment of the pre-service teachers' views on multiple intelligences theory with regard to the variables

As a result of the Chi-square (χ^2) test among the participant, pre-service teachers' views on MIT, as meaningful difference [$\chi^2_{(6)} = 13.49$, $df=2$, $p<.05$ ($p=.001$)] has been found only in item 6, and no other meaningful differences have been found in the rest of the items. Accordingly, it can be said that the male pre-service teachers are more (68.7%) disturbed by MIT's featuring the theory of evolution than the female pre-service teachers are (64.1%). This findings can be related to the fact that the male pre-service teachers are more reactive against the theory of evolution than the females.

A chi-square (χ^2) test has been done to see whether there is any difference among the pre-service teachers' views on MIT with regard to their "department of study"

variable. As a result of this test, meaningful differences have been detected in three items (2nd, 5th and 7th items). These items are interpreted below.

There is a meaningful difference among the pre-service teachers' views on the item "Do you think MIT is scientific?" with regard to the "department of study" variable [$\chi^2_2 = 25.23$, $df=12$, $p<.05$ ($p=.014$)]. Accordingly, the group that thinks MIT is scientific most consists of the students of the classroom teaching department (91.7%); and the one that thinks least comprises the students of the department of science and technology education (52.6%). This is understandable as they receive limited science and technology courses during their education, while the students of the classroom teaching department regard MIT as scientific; whereas, the students of science and technology department receive much more relevant courses thus acquire a scientific mentality and find MIT less scientific.

There is a meaningful difference among the pre-service teachers' views on the item "Do you think MIT can be implemented in Turkey?" with regard to the "department of study" variable [$\chi^2_7 = 23.97$, $df=12$, $p<.05$ ($p=.021$)]. Accordingly, the group most optimistic about the applicability of MIT in Turkey involves the students of classroom teaching department (58.3%), and the one least optimistic about it consists of the students of the department of mathematics education (28%). The pessimism of the students of the mathematics education department can be related to the fact that they overly believe that Maths should be taught with multiple teaching methods as MIT proposes rather than with traditional methods; because in Turkey there is a strong belief especially among the teachers of science and other quantitative subjects that subjects like Maths should be taught with exposition, presentation and question-answer format.

There is a meaningful difference also among the pre-service teachers' views on the item "Are you familiar enough with MIT?" with regard to the "department of study" variable [$\chi^2_5 = 54.93$, $df=12$, $p<.05$ ($p=.000$)]. Accordingly, the group that knows MIT most includes the students of the department of classroom teaching (83.3%), but the one that knows it least consists of the students of the mathematics education department (15%). One possible reason for this can be the fact that since the courses of such departments as science and maths education at the faculties of education are more difficult to deal with, not enough significance or focus is given to the pedagogical courses in these departments.

As a result of the Chi-square (χ^2) test, it was observed that there is no meaningful difference among the participant pre-service teachers' views on the items of the questionnaire with regard to the "family income" and "habitation" variables.

REFERENCES

- Aiken RL (1997). Criticisms of MI. (Retrieved in 15/03/2011 from <http://bdrum.com/htm>).
- Akpınar B, Doğan Y (2011). Deciphering the Theory of Multiple Intelligences: An Islamic Perspective. *Int. J. Bus. Soc. Sci.*, 2(11): 224-231.
- Arlı Ö (2004). Güzel Yurdumuz Türkiye Üniteline Yönelik Çoklu Zeka Kuramı Etkinlikleriyle Oluşturulan Öğrenme Ortamının 5. Sınıf Öğrenci Başarısına Etkisi. Master Thesis. Yıldız University, Istanbul.
- Bacı A (1995). Sosyal Bilimlerde Araştırma. Ankara, Bilgisayar Yay.
- Brody N (1992). Intelligence. New York: Academic Press.
- Bümen NT (2006). Eğitimde Yeni Yönelimler. *Çoklu Zekâ Kuramı ve Eğitim*. (Ed.: Ö. Demirel). (1-37). Ankara: Pegem Press.
- Büyüköztürk Ş (2002). Handbook of Data Analysis in Social Science. Ankara: Pegem A Press.
- Darius J (2008). Against Gardner. (Retrieved in 27/04/2011 from <http://www.literaryescorts.com>).
- Delisle JR (2001). In Praise of Elitism. *Gifted Child Today*. 24(1): 14–15.
- Eysenck MW (1994). Intelligence. *The Blackwell Dictionary Of Cognitive Psychology*. Cambridge: Blackwell Publishers.
- Gardner H (2006). The Disciplined Mind. (Translation: Ö Akbaş). Istanbul: Morpa Press.
- Gardner H (2009). Five Minds for the Future (Translation: H Kale). Burdur: Sebit Inc.
- Gür B (2006). Çoklu Zekâ Kuramının Pedagojik Sorunları. *Yarın*. 4(46): 22-23.
- Hirsch Jr (1988). E.D. Cultural Literacy. (Retrieved in 27/04/2011 from <http://www.amazon.com/Cultural-Literacy-Every-American-Needs/dp/0394758439>).
- Kincheloe JL (2004). Multiple Intelligences Reconsidered. New York: Peter Lang.
- Klein PD (1998). A Response to H. Gardner. *Canadian J. Edu.*, 23(1): 103–112.
- Morgan H (1996). An Analysis of Gardner's Theory of MI. *Roeper Rev.*, 18: 263-270.
- Obuz C (2001). Çoklu Zekâ Kuramının Hayat Bilgisi Dersinde Öğrenme Sürecine Etkisi. Master Thesis. Hacettepe University: Ankara.
- Özdem G (2008). Türkiye'de 1980 Sonrası Uygulanan Eğitim Politikalarının İlköğretim Okullarında Yarattığı Dönüşümün Değerlendirilmesi. *Eğitim Bilimleri Bakış Açısıyla Türkiye Cumhuriyetinde Eğitimin Çağdaş Değerlerle İrdelenmesi Çalıştayı*. 243-251.
- Özden Y (1999). Eğitimde Dönüşüm, Eğitimde Yeni Değerler. Ankara: Pegem A Press.
- Peterson KS (1997). Do new definitions of smart dilute meaning? USA Today, D1-D2 [Online] Available: <http://www.igs.net/~cmorris/critiques.html> (April 1, 2011).
- Richardson K (1991). Understanding Intelligence. (Retrieved in 23/3/2011 from <http://www.igs.net>).
- Schaler JA (2006). Howard Gardner Under Fire. Chicago: Open Court.
- Selvi H (2011). Çoklu Zekâ Kuramı. (Retrieved in 09/03/2011 from <http://www.kamarasbilsem.k12.tr/files/cokluzeke.pdf>).
- Sempsey J (1993). The Pedagogical Implications of Cognitive Science And Howard Gardner's M. I. Theory. (Retrieved in 13.04. 2011 from <http://www.ls.net/~Cmorris/Critiques.html>).
- Sew JW (2003). Otak Dan Kecerdikan (Brain and Intelligence). Dewan Bahasa, 3(2): 34-39.
- Smolucha F (1993). Review of Multiple Intelligences: The Theory in Practice Choice.
- Sternberg RJ (1991). Death, Taxes and Bad Intelligence Tests. *Intelligence*, 15: 257-269.
- Tekışık HH (2005). Yeni İlköğretim Programlarının Uygulanmasına Öğretmenlerin Hazırlanması. Yeni İlköğretim Programlarını Değerlendirme Sempozyumu. Ankara.
- Traub J (1998). Multiple Intelligence Disorder. *New Republic*, 219(17): 20-23.
- Waterhouse L (2006). Inadequate Evidence for Multiple Intelligences, Mozart Effect, and Emotional Intelligence Theories. *Educational Psychologist*. 41(4): 247–255.
- Willingham DT (2004). Reframing the Mind. *Educ. Next*, 4(3): 19-24.
- Yangın B (2005). İlköğretim Türkçe Dersi Öğretim Programı ve Klavuzunun Değerlendirilmesi. *Kuram ve Uygulamada Eğitim Bilimleri*, 5(2): 477-516.