Content Analysis of Textbooks in Pre-Occupational Course for Students with Intellectual Disability Based on Multiple Intelligences

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ABSTRACT: This study was carried out to analyze the content of textbooks in pre-occupational course (secondary school) for students with intellectual disability emphasizing on attention to the skills of Gardner`s multiple intelligences. The research method was content analysis. Therefore, with using entire sampling books of all Pre-occupational students with intellectual disability (27 volumes) were analyzed. Categorization system and encryption of variables and sub-variables - which their validity and reliability have been approved - were used for data collection. Data were analyzed by descriptive statistics and chi-square method. The results showed that there is a significant difference between the educational level and different books of pre-occupational course in terms of attention to the multiple intelligences (P< 0.0001). According to these findings it can be concluded that there is not a systematic process at the rate of attention to the teaching of Gardner's Multiple Intelligences in various books of pre-occupational course.
Keywords: Achievement Motivation, Ambiguity Tolerance, Entrepreneurship, Students.

INTRODUCTION

Howard Gardner proposed his theory through "Mind of frames" in 1983 for the first time. He suggested: "I believe the human cognitive ability is described more efficiently in a collection of abilities, talents and psychological skills, I call them intelligence (Gardner, 2006). Gardner supposed intelligence is not a specific thing, but rather it is a personal talent which each kind can be used in different situations. Gardner specified nine components of intelligence and believes they are independent of each other and include: Linguistic Intelligence (Word Smart), Musical Intelligence ("Musical Smart"), Logical-Mathematical Intelligence (Number/Reasoning Smart), Spatial Intelligence ("Picture Smart"), Bodily-Kinesthetic Intelligence ("Body Smart"), Intra-personal Intelligence, Interpersonal Intelligence (People Smart"), Naturalist Intelligence ("Nature Smart"), Existential Intelligence (Gardner, 2004; Gardner, 1991). A Gardner hope, in future, by collecting and analyzing the data determines the other kinds of intelligence (Gardner, 2009). He believes everybody has different kinds of intelligence and uses them, despite one kind of intelligence might be stronger than others in a person. Also, the genetic and cultural factors play a significant role in using these kinds of intelligence and its change. Gardner claims his theory of mind can be used by psychologists in teaching (Gardner, 2003). He suggested that intelligence can be taught and everybody in any age can obtain the cognitive skill level by learning (Drawbaugh, 2002; Yan, 2006). There are a variety of evidences which everybody possesses one or all kinds of intelligence and teaching through this theory in school can help the creativity, understanding and use of the new science and educational concepts (Abdulaziz, 2008). This theory proposed new teaching methods which can be employed in the class. Every school uses this theory can develop profound understanding based on principles for its students (Delgoshaei et al., 2012). Gardner's theory of mind made a vast ground for measuring different kinds of intelligence in which it can be employed in teaching and learning of students and also to help them develop their cognitive skills and inner motivations (Al Sulim, 2012). Employing the multiple intelligence in teaching is important in some aspects; 1) every student is unique 2) the dominant intelligence of every student is shown 3) the dominant intelligence help the learning 4) different learning is experienced 5) the multiple intelligence can be taught 6) asks for different methods of assessments 7) different meaning is obtained (Hoer, 2000).

The textbook is the most important learning source in Iran's educational system. The centralized educational system caused the textbook be a basis for the educational tasks for all students in different regions and even children with different abilities; such a procedure besides some advantages has made lots of problems. Now, considering the book is of great

significance in educational system of the country, its efficiency and appropriateness equals with the ideality of educational system and its inefficiency equals with educational lack of efficiency and weakness. Thus consideration of the books and its coordination with the students' cognitive abilities and idealization of the books is of great importance. Also, Special education organization determines specific goals for each of the triple courses (amateur, pre-occupational, professional) and looks for educating people with special needs so as to have better conditions in personal and social life. Considering the personal differences of mental retardation students based on intelligence, talent and motivations in comparison with the others, the personal characteristics of these students need to be adapted with their educational features. Analyzing the books help the authors and people involved make logical decisions while editing, choosing and reviewing the books. One of the kinds of analysis is content analysis. Content analysis is a regular research method for objective description and quantitative content of the books and the literature curriculum and the comparison of the messages or the content structure with the curriculum goals.

Various researches inside and outside of country analyzed the book contents of different grades, for example (Ryf, 1997; Lemoni et al., 2010; Kobia, 2009; Weng, 2010; Brooks, 2008; Baker et al., 2010). In this research content analysis method is used for reviewing the book contents in pre-occupational grade of mental retardation students focusing on the teaching of the Gardner's multiple intelligence. So, this research looks for the question with which how much the book contents of the pre-occupational courses deal the teaching of the multiple intelligences components and is there and meaningful difference between different books and grades noting the teaching?

MATERIALS AND METHODS

This research is of the qualitative researches or more precisely is of content analysis. Content analysis is known art of research for objective description, systematic and distinctive quantitative content or the analysis of quantitative content. This research examined 27 skins of textbooks of pre-occupational mental retardation students.

POPULATION

Recent research examined the textbooks of mental retardation students in pre-occupational courses. These books were 27 skins and 2429 pages and specified based on the given table. Because the number, volume and the content of the books were limited, no sample was needed. Therefore all of the above book contents were selected and analyzed as the research population.

This research is of the qualitative researches or more precisely is of content analysis. Content analysis is known art of research for objective description, systematic and distinctive quantitative content or the analysis of quantitative content. This research examined 27 skins of textbooks of pre-occupational mental retardation students.

DATA COLLECTION TOOL

Data collection tool is "the categorized system and the variable and sub-variable coding" that can be named as "checklist" in the researches with content analysis method. For making the "categorized system "of multiple intelligence, firstly multiple intelligence is divided into the main or behavioral variables then all the behaviors or skills which are subcategories of each above-mentioned sub-skills is determined and a code for any of them is considered. Then these tools in an elementary study by at least 5 experts are assessed to see their relationship of each of the subcategories and categorization with the multiple intelligences and its efficiency for analyzing the expected content analysis. The average of the grade given by the evaluators and the correlation coefficient among the grades given to these tools, the more it is the more the expected analysis is. For reliability the above sample tools were calculated in the pre-occupational book content of the mental retardation students in two consecutive turns with a two week intervals by the encoders, coding and then correlation between two turns. The more the correlation is, the better the correlation determines the measuring tool.

RESULTS

As we discussed earlier, the goal for the present research was to answer this question how much the book content of the pre-occupational course examined the teaching of the multiple intelligence components and if there is any significant difference between the books and different pre-occupational course grades concerning the teaching of multiple intelligence components? Having statistically analyzed, we show the findings.

The findings of table 2 shows there is significant differences between different grades of pre-occupational course concerning mathematical intelligence teaching. ($x2=77.99$ and $p<0.0001$) it means in different books in the first grade of pre-occupational course the most focus was given to mathematical intelligence.(25.16%) , while in the second grade the least focus was given to this intelligence (21.99%). Yet, in all the books of pre-occupational course 23.51% was given to mathematical intelligence.

About the linguistic intelligence, there is significant difference among the different grades of pre-occupational course concerning the focus to the teaching of this intelligence ($x2=61.86$ and $p<0.0001$). In the books of second grade the most focus was given to linguistic intelligence (88.84%) whilst the least was given to the third grade (85.30%) and totally in different grades of pre-occupational course 87.07% was given to the linguistic intelligence. The above findings of the table also show there is significant difference about the musical intelligence in different grades ($x2=51.89$ and $p<0.0001$), so the most was given to the first grade (4.41%), the least to the second (0.89%) and totally to the triple grades 2.31%.

About the body intelligence there is significant difference among the grades ($x2=1.711$ and $p<0.0001$). The most focus to the body intelligence was the third grade (73.62%), the least to the second (70.54%), and totally (72%). About the spatial there is significant difference. ($X2=1.51$ and $p<0.0001$). The most focus was given the third grade (68.24%), the least (58.63%) and totally in the triple grades 62.33%. about the inter-personal intelligence, there is significant difference ($x2=55.56$ and $p<0.0001$), the most was given to the first grade (31%), the least to the second grade (23.66%) and totally 26.60%. Finally, about the intra-personal there is significant difference($x2=80.18$ and $p<0.0001$). The most focus for the teaching of this intelligence to the first grade (48.90%), the least to the third grade (39.50%), totally in the triple grades 43.10%.

The findings of table 3 show the most focus concerning mathematical intelligence teaching is by order: mathematics (90.94%), training course (25.45%), science (24.62%), socioeconomic skills (16.63%) and art (15.94%) and the least focus to this kind of intelligence is by order: Persian literature (14.23%), vocational course (13.86%) theology (5.31%) and Quran (0). And totally in 23.51% of the pre-occupational course book pages was given to the mathematical intelligence teaching. In addition to the findings, chi-square ($x2$) suggests there is significant difference concerning the focus to the mathematical intelligence among different courses ($p<0.0001$). In the other words the most focus to this kind of intelligence is for the pre-occupational mathematical books and the least to the pre-occupational Quran books.

The findings of table 4 show the most focus concerning linguistic intelligence teaching is by order: Quran (100%), art (92.43%), training course (92.12%), and theology (91.30%), and the least focus to this kind of intelligence are by order: Mathematical books (75.90%). And totally in 87.07% of the pre-occupational course book pages was given to the linguistic intelligence teaching. In addition to the findings, chi-

square ($x2$) suggests there is significant difference concerning the focus to the linguistic intelligence among different courses ($p<0.0001$). In the other words the most focus to this kind of intelligence is for the Quran books and the least to the mathematical books.

The findings of table 5 show the most focus concerning musical intelligence teaching is by order: Art (13.15%) and Persian Literature (3.20), and the least focus to this kind of intelligence are by order: Quran books (0), Vocational course (0) and training course (0). And totally in 2.31% of the pre-occupational course book pages was given to the musical intelligence teaching which is truly low. In addition to the findings, chi-square ($x2$) suggests there is significant difference concerning the focus to the musical intelligence among different courses ($p<0.0001$). In the other words the most focus to this kind of intelligence is for the Art books and the least to the Quran, Training and Vocational course books.

The findings of table 6 show the most focus concerning body intelligence teaching is by order: Vocational course (98.15%) and Mathematics (88.30), and the least focus to this kind of intelligence are by order: Quran books (0). And totally in 72% of the pre-occupational course book pages was given to the body intelligence teaching. In addition to the findings, chi-square ($x2$) suggests there is significant difference concerning the focus to the body intelligence among different courses ($p<0.0001$). In the other words the most focus to this kind of intelligence is for the Vocational books and the least to the Quran books.

The findings of table 7 show the most focus concerning spatial intelligence teaching is by order: Vocational course (90%) and Art (78.88), and the least focus to this kind of intelligence are by order: Quran books (1.32). And totally in 62.33% of the pre-occupational course book pages was given to the spatial intelligence teaching. In addition to the findings, chi-square ($x2$) suggests there is significant difference concerning the focus to the spatial intelligence among different courses ($p<0.0001$). In the other words the most focus to this kind of intelligence is for the Vocational books and the least to the Quran books.

The findings of table 8 show the most focus concerning inter-personal intelligence teaching is by order: Persian literature (52.31%) and Art (44.93), and the least focus to this kind of intelligence are by order: Mathematical books (6.79%) and Vocational course (10.18%). And totally in 26.60% of the pre-occupational course book pages was given to the Inter-personal intelligence teaching. In addition to the findings, chi-square ($x2$) suggests there is significant difference concerning the focus to the Inter-personal intelligence

among different courses (p<0.0001). In the other words the most focus to this kind of intelligence is for the Persian Literature books and the least to the Mathematic books. The findings of table 9 show the most focus concerning intra-personal intelligence teaching is by order: Art (62.95%) and Vocational course (57.19), and the least focus to this kind of intelligence are by order: Quran books (1.32%) and Mathematics (8.30%). And totally in 43.10% of the pre-occupational course book pages was given to the Intra-personal intelligence teaching. In addition to the findings, chi-square (x2) suggests there is significant difference concerning the focus to the Intra-personal intelligence among different courses (p<0.0001). In the other words the most focus to this kind of intelligence is for the Art books and the least to the Quran books.

Table1. Population and the research sample of Books for mental retardation students in pre-occupational courses

Name of book	Grade	Number of pages	Name of book	Grade	Number of pages
Mathematics	First	86	Persian Literature	Second	105
Mathematics	Second	92	Persian Literature	Third	88
Mathematics	Third	87	Theology	First	72
Science	First	64	Theology	Second	72
Science	Second	71	Theology	Third	63
Science	Third	64	Quran	First	30
Vocational lessons	First	135	Quran	Second	33
Vocational lessons	Second	220	Quran	Third	13
Vocational lessons	Third	215	Training course	First	56
Socioeconomic skills	First	170	Training course	Second	61
Socioeconomic skills	Second	127	Training course	Third	48
Socioeconomic skills	Third	118	Art	First	87
Persian Literature	First	88	Art	Second	84
Art	Third	80			

Table2. The distribution of the existence or non-existence of the different intelligences in the books of pre-occupational courses based on the grades

Variable	Grade	Not-existed in the book	Existed in the book	Total
		Frequency - Percent	Frequency - Percent	Frequency - Percent
Mathematics	First	194 - 25.16	577 - 74.84	771 - 100
Mathematics	Second	197 - 21.99	699 - 78.01	896 - 100
Mathematics	Third	180 - 23.62	582 - 76.38	762 - 100
Mathematics	Total	571 - 2351	1858 - 76.49	2429 - 100
		Test <p 0.0001 and df=30x^2 = 77.99 and N=2429		
Linguistic	First	669 - 86.77	102 - 13.23	771 - 100
Linguistic	Second	796 - 88.84	100 - 11.16	896 - 100
Linguistic	Third	650 - 85.30	112 - 14.70	762 - 100
Linguistic	Total	2115 - 87.07	314 - 12.93	2429 - 100
		Test <p 0.0001 and df=32x^2 = 61.86 and N=2429		
Musical	First	34 - 4.41	737 - 95.59	771 - 100
Musical	Second	8 - 0.89	888 - 99.11	896 - 100
Musical	Third	14 - 1.84	748 - 98.16	762 - 100
Musical	Total	56 - 2.31	2373 - 97.69	2429 - 100
		Test <p 0.0001 and df=16 and x^2 = 51.89 and N=2429		
Body	First	556 - 72.11	215 - 27.89	771 - 100
Body	Second	632 - 70.54	264 - 29.46	896 - 100
Body	Third	561 - 73.62	201 - 26.38	762 - 100
Body	Total	1749 - 72	28 - 17.49	2429 - 100
		Test <p 0.0001 and df=30 and x^2 = 1.711 and N=2429		
Spatial	First	452 - 58.63	319 - 41.37	771 - 100
Spatial	Second	542 - 60.49	354 - 39.51	896 - 100
Spatial	Third	520 - 68.24	242 - 31.76	762 - 100
Spatial	Total	1514 - 62.33	915 - 37.67	2429 - 100
		Test <p 0.0001 and df=32 and x^2 = 1.51 and N=2429		
Inter-personal	First	239 - 31	532 - 69	771 - 100
Inter-personal	Second	212 - 23.66	684 - 76.34	896 - 100
Inter-personal	Third	195 - 25.59	567 - 74.41	762 - 100
Inter-personal	Total	646 - 26.60	1783 - 73.40	2429 - 100
		Test <p 0.0006 and df=32 and x^2 = 55.56 and N=2429		
Intra-personal	First	377 - 48.90	394 - 51.10	771 - 100
Intra-personal	Second	369 - 41.88	527 - 58.82	896 - 100
Intra-personal	Third	301 - 39.5	461 - 60.50	762 - 100
Intra-personal	Total	1047 - 43.10	1382 - 56.90	2429 - 100
		Test <p 0.0001 and df=26 and x^2 =80.18 and N=2429		

Table 3. Distribution of mathematical intelligence in the mental retardation pre-occupational course book texts

Book name	Not-Existed in book	Existed in book	Total
	Frequency - Percent	Frequency - Percent	Frequency - Percent
Socioeconomic skills	346 - 83.37	69 - 16.63	415 - 100
Mathematics	24 - 9.06	241 - 90.94	265 - 100
Science	150 - 75.38	49 - 24.62	199 - 100
Persian literature	241 - 85.77	40 - 14.23	281 - 100
Vocational course	491 - 86.14	79 - 13.86	570 - 100
Theology	196 - 94.69	11 - 5.31	207 - 100
Quran	76 - 100	0 - 0	76 - 100
Training course	123 - 74.55	42 - 25.45	165 - 100
Art	211 - 84.06	40 - 15.94	251 - 100
Total	1858 - 74.49	571 - 23.51	2429 - 100
N= 2429 and df= 120 and x^2=1.70 and p<0.0001			

Table4. Distribution of linguistic intelligence in the mental retardation pre-occupational course book texts

Book name	Not-Existed in book	Existed in book	Total
	Frequency - Percent	Frequency - Percent	Frequency - Percent
Socioeconomic skills	100 - 24.10	315 - 75.90	415 - 100
Mathematics	30 - 11.32	235 - 88.68	265 - 100
Science	23 - 11.56	176 - 88.44	199 - 100
Persian literature	48 - 17.08	233 - 82.92	281 - 100
Vocational course	63 - 11.05	507 - 88.95	570 - 100
Theology	18 - 8.70	189 - 91.30	207 - 100
Quran	0 - 0	76 - 100	76 - 100
Training course	13 - 7.88	152 - 92.12	165 - 100
Art	19 - 7.57	232 - 92.43	251 - 100
Total	314 - 12.93	2115 - 87.07	2429 - 100
N= 2429 and df= 128 and x^2=2.05 and p<0.0001			

Table5. Distribution of musical intelligence in the mental retardation pre-occupational course book texts

Book name	Not-Existed in book	Existed in book	Total
	Frequency - Percent	Frequency - Percent	Frequency - Percent
Socioeconomic skills	409 - 98.55	6 - 1.45	415 - 100
Mathematics	261 - 98.49	4 - 1.51	265 - 100
Science	197 - 98.99	2 - 1.01	199 - 100
Persian literature	273 - 96.80	9 - 3.2	281 - 100
Vocational course	570 - 100	0 - 0	570 - 100
Theology	204 - 98.55	3 - 1.45	207 - 100
Quran	76 - 100	0 - 0	76 - 100
Training course	165 - 100	0 - 0	165 - 100
Art	218 - 86.85	33 - 13.15	251 - 100
Total	2373 - 97.69	56 - 2.31	2429 - 100
N= 2429 and df= 64 and x^2=3.32 and p<0.0001			

Table6. Distribution of body intelligence in the mental retardation pre-occupational course book texts

Book name	Not-Existed in book	Existed in book	Total
	Frequency - Percent	Frequency - Percent	Frequency - Percent
Socioeconomic skills	138 - 33.25	277 - 66.75	415 - 100
Mathematics	31 - 11.70	234 - 88.30	265 - 100
Science	84 - 42.21	115 - 57.79	199 - 100
Persian literature	109 - 38.79	172 - 61.21	281 - 100
Vocational course	56 - 9.82	514 - 90.18	570 - 100
Theology	81 - 39.13	126 - 60.87	207 - 100
Quran	76 - 100	0 - 0	76 - 100
Training course	49 - 29.70	116 - 70.30	165 - 100
Art	56 - 22.31	195 - 77.69	251 - 100
Total	680 - 28	1749 - 72	2429 - 100
N= 2429 and df= 120 and x^2=2.48 and p<0.0001			

Table7. Distribution of spatial intelligence in the mental retardation pre-occupational course book texts

Book name	Not-Existed in book	Existed in book	Total
	Frequency - Percent	Frequency - Percent	Frequency - Percent
Socioeconomic skills	251 - 60.48	164 - 39.52	415 - 100
Mathematics	61 - 23.02	204 - 76.98	265 - 100
Science	84 - 42.21	115 - 57.79	199 - 100
Persian literature	161 - 57.30	120 - 42.70	281 - 100
Vocational course	57 - 10	513 - 90	570 - 100
Theology	105 - 50.72	102 - 49.28	207 - 100
Quran	75 - 98.68	1 - 1.32	76 - 100
Training course	68 - 41.21	97 - 58.79	165 - 100
Art	53 - 21.12	198 - 78.88	251 - 100
Total	915 - 37.67	1514 - 62.33	2429 - 100
N= 2429 and df= 128 and x^2=2.12 and p<0.0001			

Table 8. Distribution of Inter-personal intelligence in the mental retardation pre-occupational course book texts

Book name	Not-Existed in book	Existed in book	Total
	Frequency - Percent	Frequency - Percent	Frequency - Percent
Socioeconomic skills	255 - 61.45	160 - 38.55	415 - 100
Mathematics	247 - 93.21	18 - 6.79	265 - 100
Science	144 - 72.36	55 - 27.64	199 - 100
Persian literature	134 - 47.69	147 - 52.31	281 - 100
Vocational course	512 - 89.82	58 - 10.18	570 - 100
Theology	114 - 55.07	93 - 44.93	207 - 100
Quran	50 - 65.79	26 - 34.21	76 - 100
Training course	113 - 68.48	52 - 31.52	165 - 100
Art	214 - 85.26	37 - 14.74	251 - 100
Total	1783 - 73.40	646 - 26.60	2429 - 100
N= 2429 and df= 128 and x^2=6.42 and p<0.0001			

Table 9. Distribution of Intra-personal intelligence in the mental retardation pre-occupational course book texts

Book name	Not-Existed in book	Existed in book	Total
	Frequency - Percent	Frequency - Percent	Frequency - Percent
Socioeconomic skills	275 - 66.27	140 - 33.73	415 - 100
Mathematics	243 - 91.70	22 - 8.30	265 - 100
Science	118 - 59.30	81 - 40.70	199 - 100
Persian literature	134 - 47.69	147 - 52.31	281 - 100
Vocational course	244 - 42.81	326 - 57.19	570 - 100
Theology	117 - 56.52	90 - 43.48	207 - 100
Quran	75 - 98.68	1 - 1.32	76 - 100
Training course	83 - 50.30	82 - 49.70	165 - 100
Art	93 - 37.05	158 - 62.95	251 - 100
Total	1382 - 59.90	1047 - 43.10	2429 - 100
N= 2429 and df= 104 and x^2=1.42 and p<0.0001			

DISCUSSION

The goal of the present research is to examine the book content of the pre-occupational (secondary) schools concerning the focus to the Gardner's multiple intelligence in different grades and books.

The findings showed there are significant differences among different grades of pre-occupational course concerning the focus to the multiple intelligences. As in different grades, the most focus was given to the linguistic, spatial and body intelligences. The least was given to the musical intelligence which is truly low. Focus to the other kinds is average.

Also by comparing the total grades of all intelligences in different books of pre-occupational course, this result is obtained to which the focus was given the linguistic and body intelligences more than others, while the least was given to the musical intelligence.

Based on the results of the research, it can be asserted that the mental retardation pre-occupational course textbooks did not examined all the components of intelligences equally. Considering the literature and theoretical backgrounds of mental retardation children, it can be said these children based on logical age (mental abilities) are lower than the normal significantly and also possess some deficiencies to adapt behaviors. Adaptive skills for the mental retardation people are not comparable with their normal peers. A mental retardation child might have problems to learn and adopt) social skills for

some reasons, namely distraction, inattention and disability to determine the clues, social norms, aggressive behaviors (Benavidz et al., 1993; Bergen et al., 1994; Merill et al., 1994). Also the mental retardation children have poor performance in mathematical calculation, though their performance might be close to their logical age. These kinds of children could learn the main calculations, but fail to apply in the appropriate situation (Berene-Smith et al. 1998).

One the most serious and apparent characteristics of the mental retardation children is delay in speech and language development (Warren et al., 1997; Armatas, 1998).

To prepare an educational program for the educable mental retardation children, it is important to consider: 1.teaching the basic skills including spelling, reading, writing, mathematics, art, physical education, theology and hand skills considering the desire, interests and also solving the daily needs to communicate with self and others. 2. Providing the grounds for developing the appropriate habit about personal hygiene. 3. Developing the social relationships 4.making the grounds to make a balance for emotion, independence at school and home. 5. Providing the occupational qualification by training in the appropriate professions.

Generally, the result show that little focus is given to the musical intelligence in the pre-occupational course textbooks and different grades, well it's better to be considered. Also little focus was given to inter-personal intelligence, considering the deficiencies of some mental retardation children in social skills, the more focus to this intelligence is needed.

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