فصلنامه تحقیقات جدید در علوم انسانی
Human Sciences Research Journal
دوره جدید، شماره ۲٤، بهار ۱۳۹۹، صص ۲۱-۱۱ New Period, No 24, 2020, P 11-21
شماره شاپا (۲٤۷٦-۷۰۱۸) ISSN (2476-7018)

Investigating the Amount of Attention Paid to Critical Thinking Skills in the Fourth Grade Primary School's Social Teachings Textbook Authored in 2016 in Comparison to its 2002 Version

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Abstract:
The stream of nurturing thinking individuals has been started since Socrates time and it has been so far atop of the education experts' attentions. It seems that the period of education at school can be a proper opportunity for achieving this goal. Particularly, the textbooks' contents provide a proper opportunity in accomplishing the thought-oriented educational objectives. Revising and updating the books' contents in proportion to the daily increasing needs of the generations is inevitable and necessary. Thus, the evaluation of the old and new books is of a great importance in elaborating the success in meeting these goals. In the present study, the amount of attention paid to the critical thinking skills has been assessed in the fourth grade primary school's social teachings textbooks authored in 2016 in comparison to its 2002 version based on the content analysis method and through taking advantage of a checklist made by the researcher according to Matthew Lipman's critical thinking skills. Nine skills and their assessment indicators have been taken into account in the checklist from the perspective of Matthew Lipman. Based on the findings, the coefficient of engagement in social teachings textbook authored in 2002 is equal to 0.57 and the coefficient of engagement in the social teachings textbook authored in 2016 is equal to 1.18. So, paying attention to critical thinking is deemed favorable in the 2016 version of social teachings textbook (new edition). It is

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suggested that the contents of the other textbooks should also be evaluated so that they can be revised and rewritten, if needed.
Keywords: critical thinking, social teachings, fourth grade primary school, content analysis

Introduction:

Thinking is an inevitable demand for the human beings. Our behaviors and lives depend on our methods of thinking. Human beings can decorate their thoughts. The topics being increasingly discussed in the area of teaching thinking imply that thinking is an inherent faculty in the human beings' development stages and also that the human beings do not think like animals so it is emphasized that thinking should be fostered as a special power in the human beings (Aghababaean, 2017).

Expansion of the critical thinking within the format of education is envisioned as an important and required goal that is implicit but undoubted. However, there are many reasons that cause doubts about the unquestioned position of critical thinking in the common education system (Radulovic, 2017).

It can be seen in a review of the study background that researchers like Ghadampour, Mottaghi, Zare'e, Ghabul and Aghababaean have published articles to evaluate the significance of the critical thinking in education and assess the outcomes of it amongst the various fields of study and occupations thereby to take influential steps in this regard.

Since the fourth grade primary school's social teachings textbook has been revised in 2016, the present study investigates the amount of attention paid to critical thinking skills in this book in contrast to its 2002 version based on content analysis and using Lipman's critical thinking skills.

Familiarity with Critical Thinking:

In the book "how do we think?", Dewey has the following words about the concept of thinking: "it is an action that causes the confirmation or generation of other realities in an existing situation; or, it is a method by which the future beliefs are formed based on the past beliefs". In the same book, Dewey defines the nature and essence of critical thinking as judgment and avoidance of hastiness in judgment; in other words, he realizes critical thinking as the active, stable and precise investigation of every opinion or knowledge (Yusefi Saeed Abadi, 2008, p.93).

Thinking is the process in which an individual tries specifying the problem s/he has encountered and uses his or her prior experiences to resolve it (Ghadampour, 2018).

There is suggested a vast domain of definitions for critical thinking in the resources. For example, Mour (2013) interviewed with a group of academic specialists in the areas of history, philosophy and culture and asked to define critical thinking. He presented the definitions based on the interview results

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in seven branches: 1) making judgment; 2) becoming doubtful; 3) plain originality; 4) exact reading; 5) intellectuality; 6) active participation in knowledge; and, 7) reflective thinking. Moreover, Ryan and Louie (2007) noticed that there is a low recognition and information of critical thinking in the scientific communities (Lucas, 2019).

Elder (1994) defines critical thinking as the ability to accept the responsibility for the consequences of thinking for an individual (Aghababaean, 2017).

Citing Fisher (2002), Smith mentions critical thinking as the ability of distinguishing between leaning and bias in reasoning and tendency towards expressing the truth, and calls it the ability to skillfully and courageously analyze issues; thus, critical thinking is an intellectual thinking wherein the individual precisely analyzes the topics, searches for the documents and evidence, and reaches a finally correct and reasonable result based thereon (Mottaghi, 2017).

Ennis, Paul, Mcpack and Lipman (1991) believe that there are at least two elements in critical thinking; the first one is critical spirit that includes preparations, attitudes, mental characteristics and personal traits and the other element is the skills required for having a correct appraisal and evaluation. Put differently, critical thinking possesses two dimensions of skill and attitude. In the skill aspect, the cognitive processes and, in the attitude aspect, the individual's internal motivation and tendencies are discussed in his or her confrontation with various problems (Mottaghi, 2017).

Abrami and others know that critical thinking plays an important role in the adulthood life and believe that the individuals having critical thinking ability are provided with a higher change for success and coordination in social arenas (Zare'e, 2017).

Facione suggests six skills for critical thinking, including interpretation, analysis and investigation, evaluation, deduction, explanation and self-regulation (Aghababaean, 2017).

In an article by Lipman under the title of "what can critical thinking be?", the followings have been mentioned as the critical thinking skills: question-asking skill, analysis and evaluation, reasoning, evaluation of evidence and assertions, interpretation of the data, sociableness, correct judgment about the problems, reasonableness and explicitness (Khosrownejad, 2006).

The Trend of Attention to Critical Thinking:

The wise roots of critical thinking date back to long ago in such a way that it is confirmed in the teaching methodology and perspectives of Socrates 2500 years ago. Plato and Aristotle continued Socrates's method. In the middle centuries, as well, the systematic critical thinking tradition appeared in the writings and teachings by thinkers like Thomas Aquinas (Ghabul, 2016).

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Francis Bacon introduced the "tribal idols" in England, i.e. the methods by which our mind naturally tends to deceive itself. His book, "progress in learning", is amongst the first texts on critical thinking. Descartes is amongst the other thinkers that paid attention to critical thinking during 16th and 17th centuries. In the book "rules for guiding thoughts", he discusses about the need for a systematic navigator that can compel the mind to think (Ghabul, 2016).

As the greatest philosopher from enlightenment era, Kant realizes the critics' work as being like the trial in the court in the book "the critique of pure reason" and writes that our period is the real period of criticism and everything should be a function thereof. Kant is always found having accepted criticism in its Greek sense as a form of judgment and issued his main philosophy in the following words: "nothing should be accepted without acceptance and no value can be considered as being definite before appraisal" (Khosrownejad, 2006).

Jean Piaget knows the essential goal of education as the upbringing of human beings who can perform new tasks and do not repeat what the other generations have done; that is to say individuals should be creative, inventive and discoverer. The second goal of education, as he opines, is the fostering of minds that can criticize and verify the things presented to them in lieu of accepting them (Ghadampour, 2018).

Critical thinking movement that came to existence in 1950 based on two assumptions, namely 1) thinking is every human being's right and 2) classroom is the intellectuality laboratory, gained doubled vigor under the influence of Robert Ennis's thoughts. Ennis is the professor in American Cornell University and prepared x,y tests for the first time to speak about teaching and critical thinking assessment. It is worth mentioning that the x-level test is consisted of five sections; in the section pertinent to the primary schools' children, a virtual situation is encountered that is similar to real situations of life and the corresponding questions are answered by them after contemplation over the incidents. Z-level test pertains to the adolescents from the periods after the primary school and it has also been organized in the same way (Jahani, 2002, p.36).

During early 20th century, teachers like Dewey, Durkheim, Goodman and Mead proposed principles, criteria and standards in education inspired by the social sciences and logics and offered the reflective pattern. Dewey was the only person who approached education as a huge social reform with its objective being transformation of the society to a lawful world. John Dewey, an American philosopher, psychologist and instructor, has been given the epithet of the father of the new critical thinking principles. He recounts critical thinking as the reflection of thoughts and defines it in the following words: "active and continuous precise thinking regarding an opinion or presumption that has stemmed from knowledge in the light of the grounds supporting it to result in a final conclusion (Khosrownejad, 2006).

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In 1960, cognitive skills of the students found a particular stance in the US and it was after that it started expanding and being transferred to the other countries with a doubled dynamicity. Effective implementation of the critical thinking became the goal of education, and the use of proper teaching methods was introduced as the way for achieving this goal. Since it was accordingly envisaged important to instruct the teachers in this regard, special programs were subsequently designed (Radulovic, 2018).

In the end of the 20th century, John Dewey's reflective teaching stage reached its termination and it was in the turn of 21st century that a stage was posited comprised of useful functions like society of question, reflective balance and judgment expansion as its properties. This reflective model of thinking featured a philosophy for children. The objective of this method of thinking was creating thinking students and teachers as well as thought-oriented schools. Matthew Lipman, an American professor, established this study field (philosophy for children) in 1969 (Khosrownejad, 2006).

It has been made clear in the studies by Jackson (1987), Amber and Ciano (1995), Acharya (1995) and the 33 researches performed by the institution for advancement of philosophy for children that the children who participated in the philosophy classrooms have progressed more than the control group in such tests as reasoning power, Bruner's scale of ethics, academic achievement and applying findings to real life situations (Jahani, 2002).

The Relationship between Content and the Extents of Learning Critical Thinking:

In the current education system of the country, textbooks are the most important education tool incorporating the contents of curricula. Thus, the investigation of the contents of the textbooks seems to be necessary for various reasons like their match with the curriculum goals or the identification of their weak and strong points. Content can be described as the knowledge, skills, attitudes and values that should be learnt; in other words, as believed by Conley, curriculum content is the special truths, beliefs, principles and issues embedded in the book for a specific lesson. Practically, in curriculum programming, two types of content can be at least identified: written content which is the very textbooks that should be studied and the oral content which is the teacher's explanations and his teachings in the classroom. The related parameters exert their influence on the nature of the lesson's content from theoretical (practical), social, cultural, political and individual aspects during the content selection phase (Ja'afari Harandi, 2008).

As expressed by Martin (2005), although expressing of ideas regarding the importance of expanding critical thinking exerts a considerable effect on the educational conversations and policies and gives rise to an advancing movement in line with the expansion of critical thinking, it does not lead to

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real and adequate changes in education and it will be defeated in the battle with what has been accepted as the conventional and real education (Radulovic, 2018).

It can be stated that the structure of the critical thinking cannot guide the students only through taking into consideration such fundamental skills as understanding, prediction and summarization rather they should be trained as the critical consumers and searchers of the information offered in any content (Mustofa and Yuwana, 2016).

In all of the countries, books are authored for every subject and distributed between the schools. Teachers concentrate on the contents of the textbooks and the tests and evaluations are restricted to them. Thus, the contents of the textbooks are considerably important in education. In the education system, content-oriented instruction that is authored and guided according to the students' activities and experiences pivots about the analysis and evaluation in the scientific researches helping the authors and interested individuals adopt realistic decisions in preparing and selecting the contents (Aghababaean, 2017).

Statistical Data:

The method of performing this research is content analysis of the social teachings textbooks that were authored in 2002 and 2016 based on Matthew Lipman's critical thinking indicators.

The units of analysis included all the paragraphs and exercises of the textbooks.

The data gathering instrument was the researcher-constructed tables and checklists.

The analysis units of the present study included all the paragraphs and exercises in the social teachings textbook. William Rumi's method was employed to calculate the engagement coefficient. In this method, the paragraphs with active contents are divided by paragraphs with passive contents; if the obtained coefficient is found more than unity, the attentions paid to the critical thinking skills are evaluated as favorable otherwise the attentions paid to critical thinking skills are deemed unsatisfactory. The statistical data were analyzed in SPSS Software.

To assess the critical thinking skills, each of the skills has been introduced with indicators that have been summarized in table (1).

The statistical findings of the present study indicate that 130 out of the 358 analysis unit (36.31%) in the social teachings textbook, authored in 2002 (three sections in sum) present critical thinking skills (active) and 228 units (63.69%) lack the instruction of such skills (passive). Therefore, the engagement coefficient was computed equal to 0.57.

The frequency percentage of the critical thinking skills was found higher in the first part of this book than the other two sections (first part, 46.49%; second part, 29.36% and third part, 27.17%). The least attention was found

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having been paid to critical thinking skills in chapter three, to wit the social teachings chapter.

Reasoning skill has not been at all observed in this book, and sociableness accounts for the highest percentage of skills instructed (42 times, 32.31%).

In the fourth grade primary school's social teachings textbook, authored in 2016, 220 out of the 392 analysis units (56.12%) from amongst the six chapters and worksheets, in total, were found instructing critical thinking skills (active) and 172 analysis units (43.88%) lacked the instruction of such skills (passive); thus, the engagement coefficient was found equal to 1.18 (please see the comparison table number 2).

Concentration on the critical thinking indicators was found the highest in chapter two and the lowest in chapter four as compared to the other chapters.

Asking question is the skill most frequently (27.78%) instructed in the textbook and data interpretation is the skill least frequently (0.79%) instructed in the text book (Table 3).

Discussion and Conclusion:

Raising a useful and effective human being for the society depends on the extent to which s/he has been instructed for the thinking skills, specifically critical thinking. Primary school plays a considerable role in the upbringing of thinking individuals due to the students' being away from maturity period's excitements and its related problems as well as due to the students' higher zeal and willfulness for learning. As the primary source of instruction and teaching in our education system, the textbooks' contents should corroborate and strengthen critical thinking skills. Content analysis is a step parallel to the clarification of the content's favorability. Considering table (2), although the total number of the units has not undergone a notable change, i.e. the volume of the book has not been increased so much, the number of active units was found increased from 130 (36.31%) in the previously authored social teachings textbook to 220 units (56.12%) in the newly authored social teachings textbook; furthermore, the number of the passive units was found decreased from 228 units (63.69%) to 172 units (43.88%). The comparisons in terms of the amount of attention paid to Lipman's nine skills in table (3) demonstrates that more attention has been paid to such skills as asking question, judging, reasonableness and explicitness in the recently authored textbook while less attention has been paid to such skills as analysis and evaluation, reasoning, data interpretation and sociableness. It is worth mentioning that the skills have been totally increased from 130 in the textbook authored in 2002 to 378 in the textbook authored in 2016. As it was mentioned, the engagement coefficients of the textbooks authored in 2002 and 2016 were respectively found equal to 0.57 and 1.18 indicating the more concentration on critical thinking indicators in the newly authored social teachings textbook as compared to its 2002 version.

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Thus, it seems that this book can respond to the students' need for learning critical thinking skills in terms of content. Textbooks with such kinds of content can be effective in the actualization of the goals of fundamental educational revolution deed, especially Paragraph 8 of the macro-level objectives specified in chapter three as follows: acquiring the first education rank in the region and Islam world and daily increasing enhancement of the position of Iran's education and teaching worldwide. In addition, emphasizing on the strong contents of the textbooks that can satisfy the students' needs of thinking, creativity and innovation skills, the deed's intended solutions have been specified in paragraph six (expansion and deepening of the culture of research, evaluation, creativity and innovation, theory development and documentation of the vernacular scientific-educational experiences in the public and formal education system), paragraph fourteen (development of the educational and upbringing capacities and abilities for the active and constructive presence in the international and regional arenas in line with actualization of the goals and missions stipulated in the constitution and vision plan and the general policies of Supreme Leader and the five-year plans) and paragraph 15 (elevation of the position of knowledge and teaching knowledge as the effective factors in attaining a chaste life with an emphasis on the science's exploratory and optimal prestige).

Skills' instruction is found considerably increased in the new edition and it seems that the hiring of specialized teachers and supportive education system can be promising in correcting the social and cultural shortfalls and imperfections and contributing to the nurturing of a thinking generation. It is hoped that the other textbooks from the other educational courses are also subjected to content analyses and the necessary measures are taken for elevating the instructional materials and enhancing the teachers' expertise.

Table 1: indicators intended for the evaluation of critical thinking skills

Critical thinking skills	Indicators used in the text
Asking question	Contribution is made to problem solving via proposing questions or the students should be compelled to ask questions.
Analysis and evaluation	Classification based on similarities and dissimilarities Understanding the general principles of every opinion Then, evaluation of assessing the value of the posited reasons And, prioritization of the categories should be demanded from the students
Reasoning	Content is expressed in a justified manner No unjustified explanation should be existent therein Sophistry should be detectable

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	Sufficient evidence and documents should ease deduction
Evaluation of evidence and assertions	Evidence and assertions should be evaluated The proposed terms should be evaluated Solutions should also be evaluated
Data interpretation	Making distinctions between the various meanings of a word Precision in application of generalizations Impartiality in expressing the logical ideas Offering numerous and diverse viewpoints for solving a problem Criticizing and investigating the solutions that can be used for solving a problem
Sociableness	Expressing notion in group Listening to the friends' ideas Possibility of criticizing the teachers and friends' opinions
Judging	The child should be coerced to make judgment The cause and effect relationships should be taken into account so that the judgment is facilitated Use should be made of inductive reasoning to assist the students in making a judgment The philosophical dimensions of the subject should be taken into consideration
Reasonableness	There should be a logical relationship between the incidents and realities and concepts and principles The theories and concepts should be organized rationally
Explicitness	The materials should be presented in such a way that there is no doubt in them The materials should be vividly and specifically clear

Table 2:

	2002 version	Percentage	2016 version	Percentage
Total number of units	358	100	392	100
Total active units	130	36.31	220	56.12
Total passive units	228	63.69	172	43.88
Engagement coefficient	0.57		1.18	

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Table 3: comparison of the amounts of attention paid to skills in 2002 and 2016 versions of social teachings textbook

	Frequency in 2002 version	Frequency percentage in 2002 version	Frequency in 2016 version	Frequency percentage in 2016 version
Asking question	10	7.69	105	27.78
Analysis and evaluation	20	15.38	40	10.58
Reasoning	37	28.46	65	17.20
Evaluation of the evidence and assertions	7	5.38	65	17.20
Data interpretation	7	5.38	3	0.79
Sociableness	42	32.31	46	12.17
Correct judgment about problems	4	3.08	23	6.08
Reasonableness	0	0	21	5.55
Explicitness	3	2.31	10	2.64
Sum of skills	130		378	

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