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A Content Analysis Exploring Life Skills Components in Elementary School Social Studies Textbooks

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Abstract: The aim of this study was to determine the frequency and importance of life skills components in social studies textbooks. The research method is content analysis and the units of analysis were sentences and images. The statistical population was all the textbooks of social education in the elementary school in 2021, in which the whole society was considered as a sample. The research tool is a researcher-made checklist and data was analyzed via MAXQDA software. After determining the frequency of indicators, for the comparing the frequencies, Chi-square and Shannon's Entropy method was used. The results revealed that the highest frequency of the life skills components observed in the sixth grade with 1048 cases, the second rank belongs to the fifth grade with 908 cases, and the last rank belongs to the fourth grade with 401 items. The results of chi-square test confirmed the significant differences in frequencies. Also, the results of Shannon's Entropy analysis indicated that the highest coefficient of importance is related to the component of creative thinking and the lowest is related to self-awareness. Overall, the findings have useful implications for designing school-based interventions in teaching life skills.

Keywords: Content analysis, Social studies textbooks, Life skills, Elementary schools

Introduction

One of the main goals of the curriculum for educating the developed and law-abiding citizen is to pay attention to the life skills. Today, more than ever, human beings are faced with ambiguity and confusion along with successive scientific, informational, cultural, social and industrial developments, and undoubtedly being at the core of such great changes is a powerful weapon which it is nothing but life skills and the art of living (Botvin & Griffin, 2004). Today, due to the existence of many problems, learning life skills has become one of the main concerns of human beings and people are live in the current world of conflict and competition trying to increase various abilities (such as decision making, problem solving, creative thinking, critical thinking, interpersonal relationships, self-awareness, coping with emotions, etc.) The fact is that both schools and families are always valued our arithmetic and geometry scores more than our ability to communicate with others as well as our ability think critically, while the Iranian education system emphasizes on cognitive development and memorization. Although it makes people successful in education but perform poorly in other areas of life. Today we have people who have high education, but they're faced with many problems in various

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areas of life such as jobs, social and family relationships. This emphasizes the teaching of life skills in the early years of children's personality formation (Defitrika & Mahmudah, 2021).

Educational experiences in formal and public education systems are offered to students under the title of organizing curricula and at the class and school level. Among them, textbooks are one of the most traditional educational media through which textbooks are presented in writing. They include reflections on curriculum changes and community values. One of the curricula offered in most countries is social studies. This course is directly related to life skills and values education and prepares students for life and responsible behavior in society. In the formal and public education system in Iran, social studies courses have been developed for the third to ninth grades. Due to the nature of the subject and the great connection with social issues to social norms and values, these books can have a great contribution in learning life skills, so it is necessary to analyze and evaluate carefully enough in accordance with the goals and principles (Kurtdede-Fidan & Aydogdu, 2018).

Life skills include those skills and abilities that are necessary to learn and practice for a successful life. By acquiring these skills, a person faces the least problems in life and can easily communicate with others and to solve the problems in a minimum of time, and make the right decisions (Jones & Lavallee, 2009). It has been felt that life skills teaching bridge the gap between basic functioning and capabilities. It reinforces the ability of an individual to meet the needs and demands of the contemporary society. Instructing life skill training through inculcating life skill education will help youth to overwhelm the difficulties in life (Prajapati, Sharma, & Sharma, 2017).

Summarizing the research conducted in the field of life skills, it shows the role and importance that it has in productivity and ultimately improving the quality of social life. However, the status and role of textbooks in promoting and disseminating the concept of life skills has been neglected in the elementary school as the most important period in the educational system.

Nozari, Siamian, and Talavaki (2016) in a study analyzed the content of fourth grade social studies book from William Rummy's Technique considering the social skills perspective. Based on William Roman's Technique, the text, figures and images, final activities and the book questions in fourth grade social studies reinforce the social skills in students. In another study, Erdoğan, Kostova, and Marcinkowski (2009) analyzed the extent to which science education objectives in elementary schools addressed to the six basic components of environmental literacy (EL), and how this attention differed from Bulgaria to Turkey. Content analysis of these objectives indicated that all components of environmental literacy did not receive the same attention. For example in both countries most attention was given to knowledge, less to skills and attitudes, and little to environmentally responsible behavior (ERB).

Dixon et al. (2018) performed an historical analysis of Life Skills curriculum documents from 1977 to the present and a content analysis of the CAPS document. They showed that this curriculum is weakly classified and that epistemological orientations are blurred, if not rendered invisible. The specificity of different disciplinary lenses that have different objects of enquiry, methods of analysis, and criteria for truth claims is lost in an overemphasis on everyday knowledge. According to them, if teachers are not

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themselves schooled in the languages of the disciplines that underpin Life Skills they may not be able to give children access to them, nor are they likely to be able to help them understand how different parts of the system relate to one another.

Numerous studies have used the content analysis method to analyze sentences, images and themes in textbooks and have investigated topics such as life skills, media literacy, citizenship skills, and health care skills (Gharbavi & Mousavi, 2012; Guo, Wright, & McTigue, 2018; Hasani & Abdi, 2023; Táboas-Pais & Rey-Cao, 2012; Wade, 1993).

The success of an educational system depends on the coordination of the components with each other and their alignment in order to achieve the goals and its suitability with the specific characteristics of the educational audience (Scheerens, 1990). To ensure this appropriateness, we need to review and analyze the content. This analysis helps authors and others to be more careful when compiling, and selecting the content of textbooks and facilitate learning, and to provide the ground for students' academic progress. In fact, content analysis helps to scientifically examine the concepts, principles, attitudes, beliefs, and all the components presented in the form of textbooks and compare and evaluate them with the objective of the curriculum (Grant, 2018).

Today, one cannot live in the world without a plan. The importance of curriculum content as the main element and central core of education planning has led experts and educators to pay more attention to it. The curriculum is a plan for learning, in this plan, organizing the content of the curriculum has a special place and is directs the teaching- learning methods (Tarr, Grouws, Chávez, & Soria, 2013). Textbooks are currently one of the most important references and resources for learning, because most of the educational activities take place within the framework of this medium. There are also many other factors such as types of entrance exams, scientific competitions, as well as the expectation of families and coaches who expect students to master the whole content of the book, have led to the form of training in the education system in Iran (Mosapour Miyandehi & Mansouri, 2022). Considering the significant importance of textbooks in teaching life skills and it's consequently, citizenship education is necessary. These books should be written, and selected with sufficient accuracy and according to the scientific goals and principles of curriculum content planning.

Therefore, according to the mentioned issues, this study has been conducted with the aim of analyzing the content of social education textbooks in elementary school based on the life skills component and seeks to answer the question: to what extent the life skills have been considered in elementary social science textbooks? Accordingly, the research questions are: **to** what extent are the concepts of life skills addressed in elementary school social studies textbooks? **Is** there a significant difference in the frequency of life skills in elementary school? And what is the significance of each component of life skills in elementary school?

Material and Methods

Social and human phenomena are complex topics, so the methods of research on these phenomena are also diverse and numerous, and the validity of research achievements is strongly influenced by the

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validity of the method chosen for research. One of the methods that are rapidly expanding in recent years is the content analysis method. Berelson considers content analysis as one of the research technique that is used to describe and interpret objectively and systematically the explicit and implicit content of communication (Bengtsson, 2016). Therefore, in the present study, the content analysis method has been used to examine the components of life skills in social education textbooks for third to sixth grades. The analysis unit consists of pages (sentences and pictures) which have been accurately counted by the team of research colleagues. Each page and the degree of correspondence of the sentences and pictures with the sub-components of life skills are also investigated. The technique used to investigate the significance of the difference in frequencies at different bases was *chi square statistics.* Also, *Shannon's Entropy* method was used to investigate the coefficient of significance of the components.

Today, many methods have been proposed for data analysis, which are based on calculating the percentage rank of the frequency of indicators. In these methods, there are mathematical problems that reduce the validity of the results. Shannon's entropy method, which is derived from system theory, is used in this research, which is one of the innovative aspects of the research. In fact, this method can be used when the data of a decision matrix is fully specified. The idea of the above method is that the higher the scatter in the values of an index, the more important that index is (Samiei & Mehrabi, 2019).

Shannon's entropy method steps

Step 1: The multiplicities of the data matrix table are normalizing by the following equation:

$$P_{ij}\frac{F_{ij}}{\sum_{i=1}^{m} F_{ij}}(i = 1و2و3 \dots Mو j = 1و2و \dots .n)$$

(Normalized frequency matrix =p /category frequency =f

Responsive number = I /Category number =j / Responsive number =m)

Step 2: The information load of each category is calculated from the following equation and placed in the corresponding columns:

$$E_j = -\sum_{i=1}^{m}\left[P_{ij}L_nP_{ij}\right](j = 1و2و n) \qquad k = \frac{1}{L_n m}k$$

(Normalized matrix J=[j=1,2,n]p=1929np

Logarithm np=L

Responsive number = I Category number = j

Responsive number = m

Step 3: The significance coefficient of each category is calculated from the following equation and each category has an information load. The category with more information load is also of higher importance.

$w_j = \frac{E_j}{\sum_{j=1}^{n} EJ}$

Degree of importance =W

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Information load of each category = E
Number of categories = n
Number of category = j
It should be noted that in calculating Ej , Pij values are equal to zero due to infinite errors and answers in mathematical calculations has been replaced by very small number 0.0001 . But z is an index that determines the coefficient of importance of each category in a message according to the form of respondents. On the other hand, according to the vector W, the categories resulting from the message are also ranked (Samiei & Mehrabi, 2019).
The Statistical population is all the elementary school social education textbooks written for the 2021 school year, and includes: textbooks, illustrations, and exercises related to life skills contents. The sample size is equal to all social education textbooks in primary school, which due to the nature of the research subject and the limitations of the statistical population, sampling was omitted and in order to obtain accurate and reliable data, the census method was used.
The collection tool in this research is the system of categorization and coding of variables and sub-variables, which can be textbooks content analysis form. This tool is made by the researchers to study and the basic concepts and theories related to life skills. Finally, the sub- components are collected and included in the final list. Since the unit is sentence and image analysis, each sentence and image is placed in its own category.
To ensure the validity of the initial extraction component, the content analysis form is provided to four curriculum experts and they're asked to consider all the components in terms of degree of appropriateness's and coordination with the concepts of life skills in a spectrum rate from 1 to 5. Ccomponents with a value less than 10 are removed. The test-retest technique is also used to determine the reliability of the tool. In this way, the prepared form is provided to the experts simultaneously and separately, and after applying the opinions and analyzing several lessons (randomly), the reliability of the obtained data is calculated using the C.R (Component case agreement). Total component considering the above formula, there is a 97% agreement between the coders on the 10 percent study. Descriptive and inferential statistical analysis methods included Chi-square and Shannon's entropy method. MAXQDA software was used to analyze the data.

Results

This study includes elementary school social education textbooks based on ten sub- components of life skills (self-awareness, empathy, effective communication, interpersonal relationships, decision making, problem solving, creative thinking, critical thinking, recognizing emotions, and coping with stress skill). The research findings are analyzed the form of three questions. For this purpose, at first, the total frequency of components in all books was calculated and with the use of Chi- square statistics, the differences in the frequency of components was examined. Finally the importance of the data was obtained through Shannon entropy method. The results are shown in table 1 to 4, respectively.

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Table 1. Descriptive Findings

Sentences and pictures	Pages	Educational Grades
1092	97	Third Grade
1306	113	Fourth Grade
1609	119	Fifth Grade
1704	175	Sixth Grade

According to Table 1, the third elementary social education book includes 1092 sentences and pictures, and 97 pages, the fourth elementary social education textbooks contains 1306 sentences and pictures and 113 pages, the fifth elementary social education book includes 1609 sentences and pictures and 119 pages, and finally, the sixth elementary social education textbooks contains 1704 sentences and pictures and 175 pages, which were identified and counted. The pictures and sentences of each book and their relationships with the components of life skills were counted and examined separately.

Question 1: To what extent are the concepts of life skills addressed in elementary school social studies textbooks?

Table 2. Results from the frequency of concepts related to the indicator of life skills component in social education textbooks

Sub-indicators	Third	quarter	fifth	sixth	total
Self-awareness	84	20	35	86	225
Empathy	62	11	80	86	239
Effective communication	107	31	151	69	358
Interpersonal relationships	46	29	53	84	212
Decision making	45	29	49	149	272
Problem Solving	62	74	69	148	353
Creative Thinking	143	130	121	137	531
Critical Thinking	147	51	165	127	490
Recognize the emotions	35	3	171	41	250
Coping with stress skills	77	23	93	121	314
Total	808	401	987	1048	3244

According to the table 2, the highest frequency is related to the life skills component and is in the sixth grade with 1048 cases, the second rank is in the fifth grade with 987 cases, the third rank is in the third grade with 808 cases and the last rank is in fourth grade with 401 items.

Question 2: Is there a significant difference in the frequency of life skills components in primary school? In order to investigate the significance of the differences in the frequency of life skills components in the third, fourth, fifth and sixth books, the statistical method of chi- square was used and the results are shown in Table 3.

Table 3. Results of (x2)

Statistic	value	Degree of freedom	Degree of significant
(x2)	17.238	3	0.001

According to the table 3, there are significant differences in the components of life skills at different levels.

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Question 3: What is the significance of each of the components of life skills in elementary school textbooks? The analysis of the data obtained through the Shannon's entropy method (table 4).

Table 4. Results of Shannon's entropy method

Component	1	2	3	4	5	6	7	8	9	10
Uncertainty value	0.181	0.221	0.310	0.225	0.230	0.315	0.897	0.320	0.230	0.308
Factor Significance	0.049	0.58	0.70	0.62	0.68	0.62	0.82	0.72	0.71	0.67

1. Self-awareness 2.Empathy 3. Effective communication 4. Interpersonal relationships 5. Decision making 6. Problem Solving 7. Creative Thinking 8. Critical Thinking 9. Recognize the emotion 10. Coping with stress

Based on the results of the table 4, the values of uncertainty and significance coefficient obtained from the frequencies in all bases were examined. The highest coefficient of importance is related to the component of creative thinking and the lowest coefficient of importance is related to the component of self- awareness.

Discussion

Textbooks are a formal model for achieving the desired citizen and a suitable tool for teaching life skills at critical educational years. In this study, due to the importance of textbooks, the content of elementary school social education textbooks was analyzed based on the components of life skills and the results showed that the differences in frequencies in the life skills index at different levels. The highest frequency observed in the sixth grade. The second rank belongs to the fifth grade, the third rank belongs to the third grade with 880 cases, and the last rank belongs to the fourth grade. What is the more obvious in the study of indicators in the third grade is the lack of attention to the indicators of emotion recognition, decision making and interpersonal relationships. In the fourth grade, all indicators have been neglected. In the fifth grade, the least attention has been paid to the emotional recognition index. Finally, in the sixth grade, the more attention has been paid to the decision making and the least to the recognizing one's own and other's emotions. Also, the results of Shannon entropy analysis showed that the highest significance coefficient is related to the creative thinking component with a significance coefficient of 0.82, and the lowest significance component is related to the self-awareness component with a significance coefficient of 0.045.

It is necessary to mention that Shannon entropy method gives high importance to the components that have more frequency and purposeful distribution in different educational levels. The implication is that a high frequency cannot indicate a high coefficient of importance. This method is such that components that have a high frequency but a heterogeneous distribution will have a lower significance coefficient that contains a lower frequency but an alternating and uniform distribution.

Based on what has been found in this research, it can be said that social studies textbooks have not been able to clarify the basic role and importance of life skills for students and it didn't play a positive role in this regard. Therefore, this requires a lot of attention and effort to include the concepts of life skills in textbooks and curricula. On the other hand, elementary school is a period of life that is the

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basic learning higher courses and is considered as an important educational experience for students. These experiences will be motivating, rewarding, and effective, and will lead to lifelong learning, so it is better to expand the teaching of social concepts in this course and complete it in higher courses.

In this regard, textbooks should meet the emotional, social needs and satisfying the students' curiosity and provide them with the opportunity to acquire the necessary knowledge and understanding of themselves, the world, social issues and skills. For this reason, and to solve the problem of teaching the life and social skills, social education textbooks should be full of sentences and pictures that facilitate the memorization and institutionalization of life skills students.

These findings are consistent with the findings of previous studies (Defitrika & Mahmudah, 2021; Mosapour Miyandehi & Mansouri, 2022; Nozari et al., 2016). Certainly, paying attention to these components and taking them into account in textbooks can play an important role in nurturing healthy human beings and consequently, a healthy and advanced society.

As mentioned above, the results indicate that the balanced and appropriate attention has not been paid to the components and indicators of life skills in textbooks in different grades. For example, in the third grade, the frequency of life skills components is higher than the fourth grade. It is necessary for decision makers, planners and textbooks authors to pay special attention to this critical issue, because based on the growing trends of students, physically, and cognitively, it is necessary to provide appropriate education, and inevitably these trainings must have a growing trend in terms of quantity and quality.

Teachers' awareness of the results of such research with additional teaching and training can be used to compensate for the lack of attention to this index.

The existence of limitations and shortcomings in each stage can create many problems for the researcher, which also affects the results of the research. The present study was no exception, despite the effort to comply with the relevant principles, because the research conducted by just one researcher, it is suggested that other researchers also investigate and analyze the components of life skills in other textbooks, in order to perform the best educational planning and simultaneously other educational and scientific documents, and explain the component of living skills on the agenda.

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