THE CONTENT ANALYSIS OF SIXTH GRADE COMPUTER TEXTBOOKS

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ABSTRACT

In this study, the content analysis' categories and sub topics were drawn up for sixth and seventh grade computer textbooks in order to compare visual and verbal contents of these textbooks. Totally nine sixth and seventh grade computer textbooks which were chosen by Ministry of National Education were included in this study. These nine textbooks were coded by five different coders in two different times according to the categories and sub topics. The weighty points were decided by a ten people jury who were specialist of the subject matter. The percentages and frequency of the sub topics in textbooks were calculated. Therefore; the most existent subjects in the sixth grade computer textbooks were "Using Keyboard", "Drawing Picture Using Mouse" and "Playing Game on Computer"; the least were "Using The Graphics Were Drawn Before" and "Explaining The Illustrated Story"; similarly the most existent subjects seventh grade textbooks were "Drawing Picture Using Mouse", "Using Keyboard" and "Creating A Basic Database"; the least were "Using The Graphics Were Drawn Before" and "Explaining The Illustrated Story". Weighty points for each textbook were calculated using coding and the weighty points were drawn up by jury. Having higher points showed that both visual and verbal contents of textbooks were sufficient. Therefore; the sufficiency sequence of the analyzed sixth grade textbooks was Prizma-3, Bitav-3, İznet-3, Fırat-3, MEB-3; seventh grade textbooks was Prizma-4, İznet-4, Bitav-4, Fırat-4, MEB-4.

Keywords: Computer, Coursebook, Computer Coursebook, Content Analysis

INTRODUCTION

For ages, books have been deemed to be the most reliable means of storing information. In the teaching-learning process, teachers and students have been using several tools. Among these tools, textbooks are one of the studying tools which take place in the printed and published tools group and serve as a source for students' learning lives (Alkan 1995, 67). They are tools which are prepared to make students learn, on their own, the information related with course subjects, in an ordered and correct way (Duman, Çakmak, 2003). The first books which were produced to be used in schools appeared in 1750s and more commonly in 1770s. Although textbooks have gone through serious changes in terms of design, function etc until today, they have not lost their strategic roles in the process of education. One of the most determining and guiding tools in planned and programmed educational studies are again textbooks (Özcan and Kıroğlu, 2005). The Ministry of National Education defines the textbook in its Regulation on Textbooks as "the published work used for educational purposes, which will be used in formal and non-formal educational institutions of any kind and at all grades, the chapters of which are prepared in the line with the curricula".

Problem

Textbooks are the most frequently referred tools in class, following the teacher and the board (Coşkun, 1996). According to Alkan (1995), textbook is an environment, along with the teacher and board, which communicates 99 per cent of all given information. Waldman (1995), on the other hand, emphasizes that the textbook occupies an important place in the personality development of the student. In some sections and some cases, since the textbook is the first book entering in a house, it constitutes the first nuclear of the family library. It is such a nuclear that it will turn into fruits which will help improve, in the student, the communication skills such as thinking, interpreting, listening, speaking, reading and writing; positive social attitudes; pleasure of working; respect for human values and the feeling of fraternity between nations (Ergin, Gözütok, 1996). The place of textbooks in education is accepted beyond dispute. According to Yalın (1996), teacher sets the goals of the course, tests to be applied on students, instruction strategies, and assignments in line with the used textbooks. Textbook provides teacher with some views on in-class teaching-learning activities (Orstein and Hunkins, 1993; Wellington, 2001; Glynn and Muth, 1999). When considered from the view of education technology components, it is observed that textbooks are only one of the many tools and method types which take place among non-human sources (Çilenti, 1984). Computers are also addressed as an educational tool in education technology.

In 4th, 5th, 6th, 7th and 8th gradees in the primary schools in Turkey, computer course takes place as an elective course. The curricula of computer course have been prepared and approved by the Ministry of National Education and the Council of Educational Policy. The prepared computer course curricula have been implemented by 2006-2007 academic year in schools that are included in the Project scope, and computer course has been started to be instructed as an elective course of 1-2 hour/s a week in classes from 1 to 8. It is aimed that the course be spread to all primary schools starting from the next academic year. The target of computer courses is to make students acquire computer literacy. There are computer textbooks which are prepared for the 4th, 5th, 6th, 7th and 8th gradees in primary schools and approved by the Council of Educational Policy. In accordance with the curriculum that has been recently prepared, preparation works of two different books for teachers and students have been conducted by the MONE for classes 1-8.

According to Colette and Chiappetta (1989), textbooks that are written for students must possess certain properties in terms of content. First of all, a textbook is supposed to be in conformity with the objectives and target behaviours of the current curriculum. A textbook which is prepared in parallel with the curricula must have, at the same time, an accurate content which meets the requirements of the day. Additionally, the prepared textbooks must be eligible to be used in anywhere in the country, in a school of any kind and in any learning (Aktaran: Erdoğan, 1999). Textbooks used by students must be quite purified in terms of information and contain simple information that everyone can understand (Baker, Piburn, 1997). Textbooks must contain clues that may help students think (Karagöz, Çivi, 1997). Concerning the properties of textbooks; the first point to focus on is the content of the information presented. Because the purpose of textbook use is to help realize educational objectives by giving the information necessary to be given depending on student's learning process. The content of textbooks is utmost important for students and teachers. The content must be examined in a detailed way and the noticed missing and wrong parts must be corrected. Using analysis method, which is a method through which detailed and exact results are obtained concerning the examination of textbooks' contents, ensures the achievement of accurate results.

Content analysis has become a part of literature and started to be used since 1941. Content analysis is a research method which can adjust the findings obtained to general circumstances and which ensures deduction of results. Since it entered in the literature, various definitions have been made for the content analysis. The reason of this is that every one approaches towards this method with a different standpoint. Berelson (1949) gave one of the oldest content analysis definitions like this: "Content analysis is a research technique making objective, systematic and numerical definitions of the written content of communication." (Cited in: Gökçe, 1995). Content analysis is defined as "Categorizing and converting verbal or non-verbal document's data into quantitative data by screening it, in order to classify it in terms of a problem or objective, summarize it, measure certain variables or notions and derive a specific meaning." (Arık, 1992).
With qualitative surveys coming forth in certain fields in recent years, the problem of giving a meaning to non-quantitative data has appeared. Content analysis, which is a technique used for making deductions relevant to the properties of verbal or written messages, addresses to many researchers from many fields such as human resources, psychology, psychiatry, communication, measuring and evaluating, political science, law, literature etc. Content analysis allows making an objective assessment for any written, verbal material (Tavşancıl, Aslan, 2001). The subject of content analysis is the text present in communication process. Its target, on the other hand, is the deductions from texts' contents, which may be related with the dimension of the social fact. Therefore, in content analysis there is always a relation. Content analysis does not target only the analysis of text content on the basis of the text, but also establishing a relation with the hypertext (Tavşancıl, Aslan, 2001).

The stages of content analysis, and the points to which attention should be paied while making content analysis of a book, subject, magazine are stated in the literature (Wurtzel, 1975; Hansen, 1990; Aktaran: Tavşancıl, Aslan, 2001). It might be said that works targeting the assessment of textbooks should focus on two dimensions, which are "assessing the written contents of books" and "assessing books in terms of visual components". According to the surveys conducted on textbooks in Turkey and abroad, textbooks are set to be insufficient and incoherent in terms of auxiliary components and textual coherency that are influencial on learning and remembering information. Moreover, it has been deducted that there are qualitative and quantitative insufficiencies in the production of textbooks, produced books are not sufficient and that it is necessary to revise them. It has been constated that teachers do not find sufficient the books used today. One of the stressed points in the report prepared by Turkish Academy of Sciences (TÜBA) in 2005 is that textbooks contain insufficient, imperfect and wrong information in terms of content. It is observed that textbooks are not produced in line with visual design principles (Keser, 2004, Keser and Eşgi 2004). Both teachers and students need to learn how to use visuals. Visual elements in textbooks are rarely used in an effective way. (Pettersson, 1993, Erdoğan, 1999; Kılıç, 1999; Şahin, 2001; Şimşek, 2001; Keleş 2001; Yapıcı 2004). The surveys conducted indicate that the textbooks prepared in Turkey and used in classes in terms of written and visual content are insufficient. It has become an important problem to set and correct the insufficiencies and errors in textbooks. Computer books are also among the textbooks to be examined, and no survey examining textual properties of these textbooks has been observed. In the surveys conducted relevant to the textbooks in different domaines as well, it has been set that the content has not been thoroughly examined. Since content analysis is an objective, systematic and numeric method, it has been established as an appropriate method for the analysis of computer textbooks and preferred to be used in this survey.

Objective

The general objective of this survey is to establish whether 6th grade primary education computer textbooks contain the necessary properties in terms of content. In line with this general objective, answers have been looked for, for the following questions.

1) In terms of the categories defined in content analysis, what is the current status of 6th grade primary education computer textbooks?

2) According to the experts of the field, how do the topics taking place in 6th grade primary education computer textbooks rank in terms of importance?

3) According to the experts of the field, how should the properties that the visual elements in 6th grade primary education computer textbook have rank in terms of importance?

4) For each book from 6th grade primary education computer textbooks, how do topics take place in books in terms of written content?
5) Visual elements in 6th grade primary education computer textbooks, of the properties they must have, which ones do they have and to what extent do they have them?
6) To what extent are the special sub-fields (with the weighted points) in the curriculum category determined for content analysis present in computer textbooks?
7) To what extent are the visual elements (with weigthed points) in conformity with the principles set in computer textbooks?
8) Which one/ones of the 6th and 7th grade primary education computer textbooks, selected by the MONE and the Council of Educational Policy is/are in a better situation in terms of visual elements and written content, when compared with others?

This survey is important, since it is not a survey targeting the analysis of computer textbooks; it provides information for those who fulfil the function of preparing, evaluating and choosing computer textbooks and constitutes a content analysis for computer textbooks.

METHODOLOGY

In the survey, in which screening model was employed, content analysis of 6th grade primary education computer textbooks was realized. In the books, not only the writings as content, but also visual elements were included in content analysis. In this survey, 6 computer textbooks, which were published by diverse publishing houses to be instructed in the 6th grade, and which were approved and accepted by the Council of Educational Policy, were considered as the total field under survey (Communications Journal, 2549, 2003). Nevertheless, it was not possible to reach the book of one publishing house. Content analysis was made on the 6th grade primary education computer textbooks (Computer-3) of five publishing houses (Bitav, Fırat, İznet, MEB, Prizma) reached. In the findings, names of the publishing houses were not given, and the books included in the scope of the survey were randomly encoded by letters.

In the content analysis of 6th grade primary education textbooks, analysis categories were determined by taking into consideration technical properties such as being homogene, complete, distinguishing, in compliance with the objective and goal, and meaningful; and qualities that textbooks had to have (Tavşancıl, Aslan, 2000). These categories were divided into the necessary special sub-categories. For the content analysis of 6th grade primary education computer textbooks, two different categories were set as “curriculum” and “visual elements” in compliance with the objectives. Since there are two types of content in textbooks as written content and visual elements; both writings and visual elements were evaluated while the content analysis was made. The category of “curriculum” was divided into special sub-fields on the basis of 6th grade primary education curriculum published in the Communications Journal and a form was prepared. In the determination of “visual elements” category used in content analysis, “Design of Visual Elements” section (item 12) of the “Expert Evaluation Form on Graphic Design Principles for Textbooks” which was developed by Alpan (2004) was used.

Five computer textbooks, contents of which would be analyzed, were encoded by five different coders, who were faculty of education graduates, working as computer teachers, by using encoding form. The coders were informed about the content analysis and encoding before starting encoding. Each one of the sentences in every book were examined and placed by coders under the established “curriculum” category and special sub-fields. Visual elements, on the other hand, were evaluated one by one according to the special sub-fields under the “visual elements” category. In order to ensure reliability, coders encoded the books once more at different times. A jury was formed of ten field experts for the assignment of weights in respect of importance. The formed jury gave 1-10 points to the categories to be used for content analysis in respect of importance. By using points, it was tried to determine which ones of the books were more sufficient. In order to ensure reliability, the same text was encoded by five different coders and at two different times. During encoding, different views were rarely appeared. In other words, all sentences were also placed under special sub-fields by five different coders. In the few sentences which displayed differences, on the other hand, it was observed that these differences were due to carelessness and these sentences were placed under the appropriate special sub-fields. The same thing happened while visual elements were evaluated as well.

In the analysis of data, semantic analysis was employed as the analysis technique. As it is due in the semantic text analysis, firstly the messages that textbooks were expected to communicate were determined. In determination of these messages, the objectives and behaviours in the curriculum were taken for the basis. Since there are many visual elements particularly in computer textbooks, these elements were not ignored. Visual elements, too, were included in the content analysis. The properties that visual elements had to have were determined one by one, and included in the form, with a view to be applied on elements. In encoding form a numerical coding system was applied. Categories and special sub-fields were coded in numbers (Tavşancıl, Aslan, 2001).

The sentences in books were placed under the relevant special sub-field in the encoding form, depending on the behaviour they had to make students acquire. Each sentence took place under one single special sub-field. Later, the frequencies of the sentences under special sub-fields were found, by their numbers being calculated. Depending on the total number of sentences in books, percentages of the sentences in respect of special fields were calculated. The visual elements in books, too, were examined one by one, and placed according to the special sub-fields in the visual elements category. All visual

elements under each special sub-field were totaled up and their frequencies were calculated. Depending on the total number of visual elements in books, percentages of the visual elements in respect of special fields were calculated. The five books included in the survey were converted into tables according to category and special sub-fields and frequencies and percentages.

A jury of experts was formed while weights were assigned to categories and special sub-fields in respect of their importance. Jury members were informed on the codes used in content analysis and encoding principles. Special sub-fields were evaluated with a scale of 10 uninterrupted components. Following the assignment of weights to special sub-fields by jury members, average values were found. The findings obtained from data collection tools were interpreted with the help of the findings obtained from literature screening. Percentages and frequencies of the sentences in book were calculated separately in respect of special sub-fields. It was determined that special sub-fields of high value sufficiently existed in books. Which subject has a more weighted place in books can also be seen by looking at these values. Total points were given to books, by using their weighted points and frequency values. The computer textbook, which had the highest point, was set to be more sufficient when compared with the others.

FINDINGS AND COMMENTS

Findings and comments relevant to the content analysis of 6th grade primary education computer textbooks are given below, sub-objectives being taken into consideration.

Content Analysis Categories for Sixth Grade Primary Education Computer Textbooks

The first sub-objective of the survey is "What is the current status of sixth grade primary education computer textbooks in terms of the categories set in content analysis?". In line with this sub-objective, for sixth grade primary education computer textbooks, primarily 2 categories, one being "Curriculum category" and the other being "Visual elements category"; and 25 special sub-fields, 13 being in the first and 12 being in the second category, were defined.

Ranking of the Properties that the Visual Elements in Computer Textbooks ought to have and the Curricula in respect of Importance

The second sub-objective of the survey is "According to the field experts, how do the subjects taking place in sixth grade primary education computer textbooks rank in respect of their importance?". The third sub-objective, on the other hand, was defined as "According to the field experts, how do the properties that visual elements in sixth grade primary education computer textbooks ought to have rank in respect of importance?". In line with the second and third sub-objectives, distribution of weighted points in respect of special sub-fields was calculated. According to the weighted points set by the field experts, the most important subject for the sixth grade primary education computer course is "file saving and deleting in computer" (9.88). It is followed by "using the keyboard" (9.62) and "drawing by using the mouse" (8.65). In terms of visual elements, "Being stimulant for the student" was defined by the experts as the most important property that visual elements had to have (9.85). This property is followed by "Contributing to Message Communication" (9.58) and "Appropriateness of Visual Elements for the level of Student" (9.46).

To what extent are the subjects present in Computer Textbooks?

The fourth sub-objective of the survey is "For each book in sixth grade primary education computer textbooks, to what extent are the subjects present in them?". In line with this objective, the percentages and frequency values of the sentences in the five books for the sixth grade primary education computer course were calculated.

880 sentences were constated in the computer textbook prepared by the publishing house A. 228 sentences of them cannot be included in any of the special sub-fields of the set curriculum category. These 228 sentences are named as substitute (irrelevant) sentences. In the computer textbook prepared by the publishing house A, it was the subject of "using the keyboard" which was tackled at most. 15 per cent of the sentences in the book was reserved for this subject. This rate is quite high when the percentages of other subjects are examined. The percentage of the place given to the subject of "Drawing by using the Mouse" was 11 per cent. The subject coming in the third place was "Reanimating an Event by Placing the Ready Images or Shapes in the Special Drawing Programme on the Correct Place". The percentage of the place given to this subject was 8.5 per cent. The subject, with the lowest percentage in the books, was "Using the formerly Drawn Graphics" by 0.3 per cent. Related with this subject, only 3 sentences were constated in the whole book.

In the computer textbook prepared by the publishing house B, 973 sentences were constated in total. 291 sentences of them cannot be included in any of the special sub-fields of the set curriculum category. In other words they are filling sentences. In the computer text book prepared by the B publishing the subject "Being able to use the Keyboard" has taken a huge part. 12,3 % of the sentences in the book is about this subject. This rate is quite bigger when we look at the percentages of the other subjects in the book. Secondly, the subject "Being able to draw pictures by using a Mouse" has taken part in the book with 11,8 %. The third place of the subjects is "Being able to save and erase in the Computer". The percentage of this subject is 8,6 %. The subject that has the lowest percentage in the book is "Being able to explain the Event Enacted". There are only 3

sentences in the book on this subject.

In the computer text book prepared by the C publishing there are 841 sentences detected. 232 of these sentences are not included in any of the special sub categories of the determined curriculum, in other words they are filling sentences. In the computer text book prepared by the C publishing the subject "Being able to draw pictures by using a Mouse" has taken the biggest part in the book. 22,4 % of the sentences are on this subject. This rate is quite bigger when we look at the percentages of the other subjects in the book. Secondly, the subject "Being able to use the Keyboard" has taken part in the book with 18,5 %. The third place of the subjects is "Being able to save and erase in the Computer", the percentage of this subject is 12,4 %. The subject that has the lowest percentage in the book is "Being able to distinguish the Sounds and Sound Instruments" with 1,9 %. There are only 16 sentences in the book on this subject.

In the computer text book prepared by the D publishing there are 910 sentences detected. 195 of these sentences are not included in any of the special sub categories of the determined curriculum, in other words they are filling sentences. In the computer text book prepared by the D publishing the subject "Being able to play games in the Computer" has taken the biggest part in the book. 19,5 % of the sentences are on this subject. This rate is quite bigger when we look at the percentages of the other subjects in the book. Secondly, the subject "Being able to save and erase in the Computer" has taken part in the book with 12,5%. The third place of the subjects is "Being able to draw pictures by using a Mouse", the percentage of this subject is 10,1 %. The subject that has the lowest percentage in the book is "Being able to explain the Event Enacted" with 0,8 %. There are only 8 sentences in the book on this subject.

The computer text book prepared by the E publishing differs from the other primary school computer text books. In this text book there are all of the subjects that take place in the instruction program of primary school computer class and it is taught in 4^{th}, 5^{th}, 6^{th}, 7^{th} and 8^{th} grades. While analysing the content of the computer text book prepared by the E publishing only primary school subjects have been used. In the cited computer text book there are 768 sentences detected about the sixth grade subjects. 239 of these sentences are not included in any of the special sub categories of the determined curriculum. In other words, they are filling sentences. In the computer text book prepared by the E publishing the subjects "Being able to draw pictures by using a Mouse" and "Being able to use the Keyboard" have taken the biggest part in the book. 8,7 % of the sentences are on these subjects. The third place of the subjects is "Being able to form and use a simple Database". The percentage of this subject is 7,3 %. Since the text book is a joint book, the special sub areas of Computer 3 and 4 are combined in the curriculum category. The subjects that have the lowest percentage in the book are " Enact an Event by Placing appropriately the ready-made pictures or forms in the Special Drawing Program", "Being able to explain the Event Enacted", "Being able to use the Graphics given before" and "Preparing a given Homework on the Computer" with 0 %. There aren't any sentences in the book on these subjects.

The Rate of Features that the Visual Elements Need to Have In the Computer Text Books of the Sixth Grades In the Primary Schools

The fifth sub objective of the research is "What should be the rate of the visual elements and which visual elements should be taking palce in the computer text books of the sixth grades in the primary schools?". In accordance with this objective, the percentages and the frequencies of the visual elements in five computer text books of the sixth grades in the primary schools are taken into account.

In the computer text book of sixth grades prepared by the A publishing there are totally 132 visual elements detected. 16 of the visual elements are pictures and 116 of them are forms. All of the visual elements in the computer text book of sixth grades prepared by the A publishing are prepared in accordance with the principles of "Conforming with the Integrity of Design" and "Usage of Line in parallel to the Purpose". 94 % of the visual elements are prepared in accordance with the principle of "Contributing to Transfer Messages" and 86 % of them are prepared in accordance with the principle of "Being Stimulant for the Student". The principles "The Pattern in the Pictures Being Well-Established" (12 %), "Usage of Colour in parallel to the Purpose" (39 %), "The Visual Elements Being Colourful" (39 %) and "The Effective Usage of Emphasis in the Visual Elements" (42,4 %) have very low percentages in the visual elements in the book.

In the computer text book of sixth grades prepared by the B publishing there are totally 101 visual elements detected. 16 of the visual elements are pictures and 85 of them are forms. All of the visual elements in the computer text book of sixth grades prepared by the B publishing are prepared in accordance with the principles of "Conforming with the Integrity of Design" and "Usage of Line in parallel to the Purpose". 94 % of the visual elements are prepared in accordance with the principle of "Contributing to Transfer Messages" and 93 % of them are prepared in accordance with the principle of "Being Stimulant for the Student". The principles that should be in the visual elements "The Pattern in the Pictures Being Well-Established" (16 %), "The Effective Usage of Emphasis in the Visual Elements" (30 %) and "Usage of Colour in parallel to the Purpose" (35 %), have very low percentages regarding the others in the visual elements in the book.

In the computer text book of sixth grades prepared by the C publishing there are totally 135 visual elements detected. 14 of the visual elements are pictures and 121 of them are forms. All of the visual elements in the computer text book of sixth grades prepared by the C publishing are prepared in accordance with the principles of "Contributing to Transfer Messages" ,

“Being Stimulant for the Student”, “Conforming with the Integrity of Design” and “Usage of Line in parallel to the Purpose”. The principle “The Pattern in the Pictures Being Well-Established” (10 %) has very low percentage in the visual elements in the book.

In the computer text book of sixth grades prepared by the D publishing there are totally 83 visual elements detected. 29 of the visual elements are pictures and 54 of them are forms. All of the visual elements in the computer text book of sixth grades prepared by the D publishing are prepared in accordance with the principles of “Being Stimulant for the Student”, “Conforming with the Integrity of Design” and “Usage of Line in parallel to the Purpose”. The principles that should be in the visual elements “The Effective Usage of Emphasis in the Visual Elements” (34 %) “The Pattern in the Pictures Being Well-Established” (35 %), and “Usage of Colour in parallel to the Purpose” (43 %), have very low percentages regarding the others in the visual elements in the book.

In the computer text book of sixth grades prepared by the E publishing there are totally 94 visual elements detected. 91 of the visual elements are pictures and 3 of them are forms. All of the visual elements in the computer text book of sixth grades prepared by the E publishing are prepared in accordance with the principles of “Conforming with the Integrity of Design” and “Usage of Line in parallel to the Purpose”. The principles that should be in the visual elements “The Effective Usage of Emphasis in the Visual Elements” (29 %) “Being Stimulant for the Student” (41 %), and “Usage of Size in parallel to the Purpose” (41 %), have very low percentages regarding the others in the visual elements in the book.

The Rank of Categories and Special Sub Areas Regarding Their Being in the Book and Their Weighted Points

The sixth sub objective of the research is “What is the position of being in the computer text books of the special sub areas (together with the weighted points) in the curriculum category determined for analysing the content?” and the seventh objective of the research is “What is the position of the visual elements (together with the weighted points) being appropriate for the principles determined in the computer text books?”. In accordance with these objectives, regarding their position of being in the computer text books and their weighted points, the ranking of the categories and special sub areas can be summarized as following. In 5 text books that are examined for the research, 4372 sentences are evaluated for curricuum category at total. 1185 of these evaluated sentences could not be placed in any special sub area. These sentences are defined as filling sentences. The percentages of these sentences being in the special sub areas regarding the special sub areas in the “Curriculum” category are calculated on the basis of the total number of the sentences.

In the computer text book of sixth grades there are 545 visual elements detected at total. From these visual elements the authors of the books define 166 of them as pictures and 379 of them as forms. The special sub area of “The Pattern in the Pictures Being Well-Established” in the visual elements category is included in the evaluation for only the pictures in the books. Regarding the areas, the percentages of the visual elements being in the special sub areas are calculated on the basis of the total number of the visual elements. According to all of the special sub area books in the curriculum and visual elements categories; the weighted points, series number (the number of visual elements or sentences) and the percentages of these series being in the books can be summarized as following.

- The subject of “Being able to use the Keyboard” has taken the largest part in the books. On this subject, there are 589 sentences in the books. This figure’s rate regarding the total sentences in the books is 13,4%.
- When we consider the weighted points that are calculated by the points given by the members of the jury as basis, the subject of “Being able to use the Keyboard” has the highest weighted point. According to this finding, we can say that the most important subject in the computer text book of sixth grades is the subject of “Being able to use the Keyboard” and the most weighted subject is also the subject of “Being able to use the Keyboard”.
- When we consider the series number of the subject of “Being able to use the Keyboard” in the books as basis; it is followed by the subjects of “Being able to draw pictures by using a Mouse” and “Being able to play games in the Computer”. When the weighted points are considered to be basis; the subject of “Being able to draw pictures by using a Mouse” ranks the second and the subject of “Being able to save and erase in the Computer” is the third subject.
- As being the series number, the two subjects that take the least place in the books are “Being able to use the Graphics given before” and “Being able to explain the Event Enacted”. These subjects have the same percentages of 1,2 % in the books. When the weighted points are considered to be basis; the least important subjects are observed as the same two subjects. However, the weighted point of the subject of “Being able to use the Graphics given before” is (378) much higher than the subject of “Being able to explain the Event Enacted” (189).
- When we look at the visual elements in the books; we see that the entire visual elements in the computer text book of sixth grades are in accordance with the principles of “Conforming with the Integrity of Design”, “The Pattern in the Pictures Being Well-Established” and “Usage of Line in parallel to the Purpose”. Also 94 % of the visual elements are prepared in accordance with the principles of “Contributing to Transfer Messages”.
- When we consider the weighted points in the visual elements, we see that the special sub area of “Contributing to Transfer Messages” holds the highest point. The second and the third ranks are respectively the special sub areas of “Being Stimulant for the Student” and “The conformity of the Visual Elements to the Students’ Level”. According to these findings, it can be said that while preparing the visual elements in the books, these subjects are the most carefully approached ones.

• As being the percentage of being in the visual elements, the two subjects that take the least place in the books are “The Effective Usage of Emphasis in the Visual Elements” with 43,8 % and “Usage of Colour in parallel to the Purpose” with 53,3 %. When we look at the weighted points, the special sub areas of “Conforming with the principle of Balance in Design” and “Visual Elements’ Being Colourful” hold the lowest points.

The Rate of Weighted Points of the Computer Text Books of the Sixth and the Seventh Grades in the Primary Schools

The eighth sub objective of the research is “Which of the computer text books of the sixth and the seventh grades in the primary schools dtermined by NEM Training and Education Board, hold better position regarding the visual elements and written content according to the other one?”. In order to achieve this objective, by taking the points given by the members of the jury into consideration and by calculating the weighted points of every book, it has been tried to detect their positions according to each one and the calculated weighted points of the books are ranked from the highest to the lowest.

• The computer text book prepared by the C publishing holds the highest point among the computer text books of the sixth grades in the primary schools and this finding shows that this book has more qualified features than the other text books regarding Curriculum and Visual Elements.

• It can be observed that the books of A, B and C publishing have close total points with each other. It is also detected that the book of the D publishing is better than the others regarding the curriculum and the book of A publishing is better than the other books regarding the visual elements.

• The computer text book prepared by the E publishing holds the lowest point among the computer text books regarding the total points, curriculum subjects points and visual elements subjects points. These points are considered to be very low when compared to other 4 books and by these findings, this book is considered to be the most insufficient book among the computer text books of the sixth grades in the primary schools.

CONCLUSION AND SUGGESTIONS

Conclusions

1. The categories determined for analysing the content of the computer text books of the sixth grades in the primary schools are “**Curriculum**” and “**Visual Elements**”. The determined special sub areas related to the“**Curriculum**” category are: Being able to define the computer units, Comprehending the security precautions that are necessary in the usage of the computer, Being able to start and turn off the computer, Being able to use the mouse, Being able to draw pictures by using a Mouse, Being able to use the Keyboard, Being able to save and erase in the Computer, Enact an Event by Placing appropriately the ready-made pictures or forms in the Special Drawing Program, Being able to explain the Event Enacted, Being able to distinguish the Sounds and Sound Instruments, Being able to use a ready-made simple Database, Being able to use the Graphics given before. The determined special sub areas related to the “**Visual Elements**” category are: Contributing to Transfer Messages, Being Stimulant for the Student, The Pattern in the Pictures Being Well-Established, Conforming with the principle of being plain and simple of Design, The Effective Usage of Emphasis in the Visual Elements, The conformity of the Visual Elements to the Students’ Level, The Visual Elements Being Colourful, Conforming with the Integrity of Design, Usage of Line in parallel to the Purpose, Conforming with the principle of Balance in Design, Usage of Colour in parallel to the Purpose, Usage of Size in parallel to the Purpose.
2. According to the content analysis, it is stated that the computer text books of the sixth grades in the primary schools are mostly parallel with the instruction program. However, it is found that there are sentences existing out of the determined instruction program. In the books there aren’t any lacking of subjects of the instruction program except from the computer text book prepared by the E publishing.
3. The entire visual elements in the computer text books of the sixth grades in the primary schools are prepared in accordance with the principles of “Conforming with the Integrity of Design”, “The Pattern in the Pictures Being Well-Established” and “Usage of Line in parallel to the Purpose”. Also it is seen that the majority of the visual elements are prepared according to the “Contributing to Transfer Messages” principle (94 %). However, the necessary features of the visual elements which are “The Effective Usage of Emphasis in the Visual Elements” (43,8 %) and “Usage of Colour in parallel to the Purpose” principles do not conform with nearly the half of the computer text books of the sixth grades in the primary schools. Although these figures do not seem ver high, when we examine the visual elements, we see that even one visual element counts if it doesn’t have the necessary features and this can lead to big negativities in the books. The visual elements that do not have the determined principles are causing unnecessary complexity in the books instead of students’s benefits.
4. When we evaluate the written content of the computer text books of the sixth grades in the primary schools, the subject of “Being able to use the Keyboard” holds the largest place in the books. There are 589 sentences about this subject. The percentage of this figure in the books is 13,4 %. This subject of “Being able to use the Keyboard” is followed by the subjects of “Being able to draw pictures by using a Mouse” and “Being able to play games on the computer”. These are the three most used subjects in the computer text books of the sixth grades in the primary schools.
5. The jury consisting of field experts, has given weighted points according to the importance degree of the special sub areas. According to these points, the impoertance degrees of the subjects rank as the following: 1. Being able to save and erase in

the Computer, 2. Being able to use the Keyboard, 3. Being able to draw pictures by using a Mouse, 4. Being able to define the computer units, 5. Being able to use the Mouse, 6. Comprehending the security precautions that are necessary in the usage of the computer, 7. Being able to use the Graphics given before, 8. Being able to play games on the computer, 9. Being able to start and turn off the computer, 10. Being able to use a ready-made simple Database, 11. Enact an Event by Placing appropriately the ready-made pictures or forms in the Special Drawing Program, 12. Being able to distinguish the Sounds and Sound Instruments, 13. Being able to explain the Event Enacted.

6. The features that the visual elements in the computer text books are also graded by the jury. According to these points, the importance degree of the principles in designing the visual elements are ranked below: 1. The Effective Usage of Emphasis in the Visual Elements, 2. Being Stimulant for the Student, 3. Contributing to Transfer Messages, 4. The conformity of the Visual Elements to the Students' Level, 5. Conforming with the principle of being plain and simple of Design, 6. Usage of Size in parallel to the Purpose, 7. Usage of Colour in parallel to the Purpose, 8. The Visual Elements Being Colourful, 9. Conforming with the Integrity of Design, 10. The Pattern in the Pictures Being Well-Established, 11. Usage of Line in parallel to the Purpose, 12. Conforming with the principle of Balance in Design.
7. In order to determine which of the computer text books is more sufficient regarding the education and the instruction process, by using weighted points and frequencies, the points of the books are calculated. The book that got the highest point for a subject, is considered to be the most sufficient book of that subject. According to the total points of the computer text books of the sixth grades in the primary schools, their sufficiency degree is determined as Prizma-3, Bitav-3, İznet-3, Fırat-3 and NEM 1-2-3-4-5 from sufficient to the insufficient one.
8. The sufficiency rank of the computer text books of the sixth grades in the primary schools regarding the curriculum category, that means written content are as in the following; Prizma-3, Bitav-3, İznet-3, Fırat-3 and NEM 1-2-3-4-5.
9. The sufficiency rank of the computer text books of the sixth grades in the primary schools regarding the visual elements category, that means visual content are as in the following; Prizma-3, Bitav-3, İznet-3, Fırat-3 and NEM 1-2-3-4-5.
10. According to the result of the content analysis study, we found ou that in the process of the preparation of the text books there hadn't any content analysis study made.

Suggestions

1. The computer text books of the sixth grades in the primary schools should be written again but this time avoiding the substitute (irrelevant) sentences.
2. In the computer text books of the sixth grades in the primary schools, there should be sufficient special sub areas regarding the importance degree determined by the field experts.
3. The visual elements that take place in the preparation process of the computer text books should be rearranged by taking the special sub areas in the "visual elements" category.
4. In the phase of accepting the text books, the lackings and the faults of the content of the books should be corrected by making a content analysis.
5. The content analysis education should be given to the ones who prepare and select the text books.
6. The computer text books other than the computer text books of the sixth grades in the primary schools should be examined by using the method of content analysis.
7. There should be researches on content analysis and visual design principles regarding all of the text books.

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