

icCSBs 2020**The Annual International Conference on Cognitive - Social and Behavioural
Sciences****TEXTS AND DESIGN EDUCATIONAL BOOKS OF ANTIQUITY**

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Abstract

Analytical materials are presented in the historical-pedagogical and theoretical-methodological way. The present article is a brief description of the results of the study. The research was carried out to surface the presentation of pedagogical ideas in the texts of material carriers functioned as educational books in ancient civilizations and analyze how external design of the material carriers helped to convey the message of these texts. The work focuses on the fact that diversity of material carriers had the function of the educational book in the ancient world. They were clay tablets, bamboo planks, silk scrolls, bundles of bamboo or wooden tablets, scrolls of lead sheets, parchments, papyrus scrolls, ostrakons. The external design of these material carriers provided better perception of pedagogically orientated texts. It was predetermined by ergonomic factors and was dictated by the convenience of usability of these material carriers in educational practices. The content of the texts written on these material carriers had pedagogical targets. They served as educational books for didactic and educational purposes. The texts were used to draw on geographical and astronomical concepts, to show the standards of behavioral virtues and influence learner's behavior.

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1. Introduction

A textbook is a strategic tool of education. A textbook leads a person into the world of culture, the world which is possible to enter only thanks to education. A guide to this world is a textbook, which embodies basic knowledge and a particular set of assumptions about cultural experience of people. These basic knowledge and cultural experience are recorded in the textbook with the help of a written message. This written message is a text. The practice of working with these messages is the practice of education. The practice of education, therefore, is the development of cultural values through reading and comprehension of texts in textbooks.

Alongside with the exceptional value of text material of a textbook, its design is also essential to facilitate the learning process. The design of a textbook is not only the convenience of usability, but also the interactivity of a visualization that helps convey the message of a text. It is the aesthetic expression of the meaning of a text recorded in a textbook. In this regard, each element of the textbook design becomes important: from the simplicity of using a textbook for didactic purposes to the intention to provide better perception of the meaning of text material.

This idea of a text and design of a textbook is nothing more but a modern vision of the functional purpose of the text and design of the textbook in upbringing and educating students. Meanwhile, material units having the function of a textbook in educational practices appeared in ancient times. They were those material carriers on which text was recorded and which had a particular design representation.

This article gives a brief description of the results of the study carried out with the aim of revealing both the pedagogical content of the texts and external design representation of educational books in ancient civilizations.

2. Problem Statement

Various material carriers were used as educational books in ancient civilizations. What were they, which pedagogical content did they have, did the design influence their perception?

3. Research Questions

- 3.1. The article considers the way the texts of ancient educational books and their design served for educational purposes.

4. Purpose of the Study

To analyze the texts and design of educational books of ancient civilizations, which served pedagogical purposes.

5. Research Methods

In terms of methodology, the research was organized in technical aesthetics, cultural linguistics, linguodidactics, pedagogical semiology (Assante, 2020; Barker, 1990; Karasik, 2019; Lukatskiy, 2015; McLuhan & Fiore, 1967; Osmolovskaya & Krasnova, 2018; Simon, 1969; Vlasov, 2019).

6. Findings

In ancient Mesopotamia, in Sumer (middle IV – III millennium BC), the function of the educational book was carried out by clay tablets. These tablets were flat, similar to bricks made of clay. They were fired or dried in the sun. The tablets which had texts common in meaning usually were placed in a wooden box. A specially attached tag gave information about the content of this box, the author or the owner. The arranging and design of several tablets into a whole made this unity convenient to use. In this way, the idea that defined the concept of a modern book was realized.

There were texts called “The texts of Eduba” (Eduba was the school in which these clay tablets were used). The texts contained descriptions of the school life. One of these texts (“The Father and His Naughty Son”) contained father’s teachings to his son. The father was a scribe, but his son studied poorly, lost father’s grasp. The father reproached the son, and gave him an example of the positive behavior of his son’s comrades, who brought their earnings home.

These texts contained morality, educational materials and some didactic information such as lists of words, proverbs and sayings for memorizing; advice how to do different works. There also was Sumerian “Farmer’s Almanac”. The document consisted of a series of instructions for guiding one throughout their yearly agricultural activities. The texts were of didactic value as they taught readers the “art” of debate. The texts demonstrated dialogue disputes examples in which each of the arguing defended their own point of view. In fact, these short texts (proverbs and sayings) served practical purposes: they could be rewritten and thereby, used in teaching cuneiform writing (Afanas’eva, 1983).

In ancient China, bamboo planks, silk scrolls and bundles of bamboo or wooden boards were used educational books. There had texts of historical, political, diplomatic, ethical, astrological (fortune-telling) subjects written on them. The wooden planks were made from poplar, pine and tamarisk. The difference in width gave an opportunity to write long texts on wooden planks. Several planks were tied at both ends (sometimes in the middle) with a strap or a twine, which passed through specially cut grooves. These “books” were easy to use, but short-lived because the straps or cords were frayed, decayed and scattered over time (Korol’kov, 2013; Loewe, 1997).

The silk scrolls were different in width too. They were from 24 to 48 cm. These sizes were predefined by ergonomic factors as it made these scrolls convenient to use. There were decorative colorful drawings on the scrolls. The fact is that scrolls with philosophical content usually were packed into a lacquer boxes. Philosophical content of the texts recorded on these scrolls predetermined the design solution of these material carriers and made them “books” of special status.

There was an approximately equal amount of text massive on the wooden, silk and bamboo carriers. Sometimes long texts were divided into chapters. One chapter could be placed on several planks (up to 100 planks) and they used to write the number of lines and the name of the section on the bottom of a silk scroll. In all other cases, the arrangement and design of texts on wooden planks and silk scrolls were similar and did not differ. The texts were written, as a rule, in a calligraphic style.

The texts recorded on wooden, silk and bamboo carriers contained fortune-telling treatises, mathematical and astrological information, zoological descriptions, administrative regulations, ritual orders, legislative documents, military manuals, diplomatic councils, medical information. In addition, non-textual materials were used for didactic purposes: maps, calendars, hexagrams (combinations of solid

and broken lines located on top of each other in six positions and symbolizing the extreme opposites of yin and yang).

The silk book “Shih-ching” (“Book of Songs”, XI – VI centuries BC) served for the purpose of teaching conversation and using figurative expressions in it to achieve desired goals by demonstrating linguistic competence. There were texts on the silk scroll presenting information about the language, ideology, ethics and traditions of various regions of ancient China. Confucius considered “Shih-ching” to be a source of knowledge about nature and society (it contained 100 kinds of herbs, 54 – plants, 38 – birds, 27 – animals, 41 – fish and insects) and a necessary tool for educating the elite (Lu, 1998). Quoting text fragments from this book showed that a person belonged to the Chinese educated elite. In order to influence learners pedagogically in his School of Scientists Confucius subsequently selected from “Shih-ching” 305 folk songs and poems of various genres, reflecting the diverse phenomena of spiritual, social and individual life. In fact, this collection was an educational book, which was used to familiarize them with the values of culture. Later “Shih-ching” became Sacred Writings and determined the norms and regulations of the spiritual, social and individual life of China.

The bamboo book “The Art of War”, which authorship is attributed to Sun Tzu (“honorable Sun teacher”) (late VI – early V century BC), was very popular in teaching the art of warfare, tactics of command of the army and the country (Sun’-Czy, 2003). This book was a bamboo slats with texts recorded on them, containing various methods and techniques of the “intellectual” implementation of the war, and was a training manual on the conduct of the “war without war” (war without combat operations). Nowadays, the didactic value of this book has not lost its relevance not only in military training, but also in introducing to the “intellectual” methods and techniques for resolving contentious issues of representatives of social spheres that are not related to military affairs (Sun’-Czy, 2007).

The silk book Zhan Guo Ce (V – III centuries BC) was used for didactic purposes to teach diplomacy. There were texts on the silk scroll containing descriptions of strategies and techniques of political interaction. The texts contained complicated intellectual abstracts showing the way of thinking and provided the reader with a better perception of the meaning of the text. In addition, the content of “Zhan Guo Ce” texts influenced the behavior of a reader, this is proved by numerous examples of the righteousness, courage and valor of the heroes serving as a model of ethically leading life.

In ancient Egypt, papyrus had the function of educational books. They contained texts telling about afterlife as the ancient Egyptians believed in it. These texts did not only described the peculiarities of this world, but also prepared the one who read them for the afterlife. According to Tomashevich (2014), the researcher of ancient Egyptian educational written monuments, in ancient Egypt the first textbook was compiled as “Kemit”. This book looked like boards and numerous ostrakons – the fragments of slate or limestone, shards of clay vessels, or eggshells or sea shells. This educational book conventionally consisted of three parts. The first part contained teachings and instructions for the future scribe and samples of polite phrases for writing a letter. The second part contained the instructive story praising the work of a scribe, a story was used as an exercise to train writing skills. The third part contained phrases from teachings and tomb autobiographies, glorifying the work of the scribe. In addition to this training book, educational written monuments in mathematics, medicine, astronomical observations, navigation and construction were created in Ancient Egypt. In fact, they all lacked

theoretical speculations and offered practical recommendations how to do certain things (Tomashevich, 2014).

In Ancient Greece, the function of the educational book was assigned to the lead rolls (the thickness of the lead sheet was only a third of a millimeter and therefore made it easy to fold) papyrus (it was a very expensive material, therefore it was used very rarely) and parchment. There were texts of philosophical and scientific character and some of imaginative literature on these material carriers.

The scrolls made of papyrus were used in the practice of school education, rolled into a cylinder 5–6 cm in diameter (about 2–3 meters long, sometimes 6 meters long; with a height corresponding to the modern concept of the book format, with a maximum height of 40 cm and a minimum height of 5 cm); about 20 cm wide) (Bravo & Vipshickaya-Bravo, 1999). These sizes were predetermined by ergonomic factors, dictated by usability and ease of use in educational practice.

The text was written down on the inside of the scroll. When reading the text, it was necessary to hold the scroll in both hands, one hand was to unfold, and the other one was to fold the read fragment. Making one copy of such a scroll was very expensive, but it was affordable to middle-class families. Due to the negative effect of moisture on the papyrus and its systematic unfolding and folding, the scroll quickly got worn out.

These scrolls contained the works of Homer, Euripides, Xenophon, Menander, Demosthenes. The texts of these and other authors were used to teach students writing (these texts were copied on wooden tablets covered with wax by students), reading (they were asked to read loudly) and interpreting what was written on the scrolls. Homer's texts were used more often than texts of other authors in the practice of teaching and raising children. The images of the heroes of "The Iliad" and "The Odyssey" had a pedagogical influence on the behavior of students and were standards of behavioral virtues.

For pedagogical purposes, the texts of dramas were used to demonstrate readers the patterns of thinking and behavior that were also recorded on papyrus scrolls. These texts, as Pichugina and Bezrogov (2019) note, "after being staged on the stage in the theater, became "public" and available to a wide range of readers and indeed, served as educational texts" (p. 36). The functional purpose of these texts was to use them as exercises for teaching learners eloquence.

School practice also used lead sheets a third of a millimeter thick, rolled up on a roll, on which Hesiod's "Works and Days" were written, abundantly saturated with proverbs, sayings, parables, fables, myths containing moral rules and economic instructions (Kumanekij, 1990). The didactic meaning of "Works and Days" was to illuminate the anthropocentric vision of the world and a man. In addition, this text was used to impute ethical standards in governing students' behavior, and labor instructions determined the order of housekeeping.

The lead sheets also contained Hesiod's "Theogony", which was used to cover the history of the origin of Greek tribes, gods, heroes, to describe the features of the farmer work and navigator, and to familiarize themselves with the weather signs. When studying history, in particular, the history of Great Scythia, lead sheets were used containing the works of Herodotus, describing in detail the facts related to the implementation of campaigns in which the Hellenes participated (Urushadze, 1964).

Apollonius of Rhodes "Argonautica" was used for didactic purposes. Reliable geographical information (empirically verified) descriptions of the land and sea routes, coasts with a list of rivers,

harbors, cities were found in these texts. They were carried out to draw on geographical and astronomical concepts.

In addition to “Argonautica”, there were other texts of ancient authors regarding geographical information. The texts of Eratosthenes and Hipparchus contained descriptions of the technique of creating maps. This content attracted the attention of those who was interested in mathematical and scientific geography. The “geography” of Strabo was of an encyclopedic value, therefore, it was popular among a wide range of people interested in geography. The texts of Pseudo-Scymnus, “Description of Greece” by Pausanias, are considered to be a model of the scientific exposition of geographical realities. “Description of the Known World” by Dionysius Periegetes contained a description of the land route, rhetorically representing decorated didactic poems of geographical subjects. The geographical content of the “Description of the Known World” by Dionysius Periegetes met the interests of not only educated readers, but also made it attractive in giving knowledge of geography in the practice of school education. The didactic content of these texts defined a different type of antique epic. It was a didactic epic.

Ancient Greece accumulated a rich fund of material carriers. The fund contained pedagogical texts and other literature created by ancient authors. It served as a basis for creation of libraries. The first libraries appeared in the 4th century BC. A new science was emerging within the walls of these libraries. It was pedagogy.

In Ancient Rome a parchment was the main material for the educational books. Marcus Tullius Cicero was one of the authors whose philosophical treatises were studied at Roman school. Teachers used Mark Terence Varron “Latin Grammar”, Donatus “Arsmaior” (two-part) and “Grammar” (used as the main textbook in schools for teaching Latin), Priscian Caesarean “Grammar instructions” (representing Latin textbook in 18 books) when teaching the Latin language. They studied extracts from “The Iliad” and “The Odyssey” by Homer and Aesop’s fables. The texts were used for reading and memorizing.

“Ancient codex” appeared in Ancient Rome in the 1st century AD. It was made of papyrus or parchment sheet folded and sewn together. This codex was a prototype of the book in its modern meaning. Gradually, “codex” began to be applied in educational practice, since they contained texts of ancient authors.

7. Conclusion

The results obtained while researching, allowed to specify modern scientific-pedagogical knowledge concerning the functional purpose of a text and design those material units which served as study books in ancient civilizations.

Thus, the function of the educational books in ancient world was presented by various material carriers (clay, bamboo, silk, wood, parchments, papyrus). Their design helped understand the content of texts. The content of texts written on these material carriers had pedagogical purposes. They served as educational books for didactic and educational purposes. For example, texts written on the clay tablets were used in teaching the “art” of dispute, in demonstrating dialogues-debates; the texts of Apollonius of Rhodes “Argonautica” were used to form geographical and astronomical concepts. The texts of “The Zhan Guo Ce” contained numerous examples of heroes’ moral righteousness, courage and valor, therefore, these texts served as an example for ethically leading life and were used to influence readers’

behavior. The texts of “The Iliad” and “The Odyssey” were used to demonstrate the images of heroes. They showed the standards of behavioral virtues and had an effect on learners. Some of them were used for didactic purposes (for example, to form geographical and astronomical concepts), others for educational purposes (for example, to demonstrate images of heroes).

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