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## **ELECTRONIC DICTIONARY AS A TOOL FOR INTEGRATION OF ADDITIONAL LEARNING CONTENT**

### **Abstract**

This article discusses *electronic dictionary* as an element of the „Bulgarian cultural and historical heritage under the protection of UNESCO” database developed in IMI (BAS), that will be used to integrate additional learning content. The electronic dictionary is described as an easily accessible book of reference, offering information to the shape, meaning, usage and the origin of words in connection to the cultural-historical heritage sites in Bulgaria, protected by UNESCO. The dictionary targets 9–11-year-old students from Bulgarian schools, who study the subjects “Man and Society” in 4<sup>th</sup> grade and “History and Civilization” in 5<sup>th</sup> grade.

**Keywords:** cultural heritage; database; dictionary entry; electronic dictionary; e-learning content

*The characteristic  
which one good dictionary should possess,  
is to change the general way of thinking.*

*Denis Diderot*

### **1. Introduction**

The integration of new learning content is a subject of an e-teaching course — a project still in its development stage. The project is presented through the “Bulgarian cultural and historical heritage under the protection of UNESCO” database that has been developed with the aim for broader knowledge and understanding of the national cultural heritage by the pupils (Kovacheva, 2014). Understanding of history helps develop a sense for the general advancing of society.

The project is regarded as a modern/timely teaching strategy, based on the formal structure of the learning approach Understanding by Design (Wiggins &

McTighe, 2012), with an emphasis on the interaction between the learner and the learning content. In the process of acquiring knowledge today, the students change from an object of influence to a subject of action. These dynamics give the prospective that teaching could be done in a new learning environment that has been suited to the needs and interests of the students. In such an environment they will have the opportunity to be active and productive participators in their own teaching. The main point in the teaching is the interaction between teacher-learner-learning content. We offer a product, where everything and simultaneously is active and engaged. The dynamics are controlled mostly by the learner's choice, because the interactive learning material can be started from different points, one can move along different routes and reach the result in different ways. Most choices made by the learner guarantee his extended interaction with the learning content.

## 2. Learning Process in Modern Society

The subject "Man and Society" has an integral nature. Through it the compulsory student preparation is completed at the entry stage of the main degree (middle school). With it the basis for subjects such as "History and Civilization", "Geography" and "Economics" is set. Which is why our dictionary combines all concepts that are explained in textbooks, student's books and teacher's manuals in "Our Homeland" (1st grade), "Surrounding World" (2<sup>nd</sup> grade), "Man and Society" (3<sup>rd</sup> and 4<sup>th</sup> grades) and "History and Civilization" (5<sup>th</sup> grade). In all of them, in different sections, the history of Bulgaria is studied.

Part of the concepts and problems with integral interdisciplinary nature are: nature, society, art, religion, creativity, democracy, civic society, human rights, knowledge, man-world relation, nationality, nation, history, people, country, power, ruling, freedom, economics, civilization, conflict. All of them are included in our dictionary with their meanings, origins, grammatical specifics.

Our dictionary makes it possible to optimize the result when reached and during the check by all learning standards. Our product is an open and aimed directly towards the learner modern way for acquiring knowledge. It is based on the possibilities of the Internet and its goal is achieving active and interactive learning. Children spend long time in school where they can learn a lot more than is intended by the official learning curriculum.

The development of IT directly affects the nature of the learning process. It is argued that "about 70–80% from the telecommunication testings, ran in the new multimedia technologies around the globe are connected to learning, or at least containing learning components" (Kenway, 1995). New technologies will not only broaden the current school curricula but will also transform them. There already are in circulation the terms "desktop virtual reality" and "classroom without walls" — kind of the educations, realized through electronic means. There is talk about the combination between learning and entertaining — original educational industry, connecting software developers with museums, libraries, galleries, parks and reserves.

**In the national development program** for school education and preschool preparation and education (2006–2015) the pupil is regarded as the most valued part of the educational system. A child should not only memorize and retell but

also its thinking, self-dependence and skill formation should be instigated. The introduction of information and communication technologies in education requires that high-speed Internet and multimedia be provided in every school, as well as the creation of a national education portal and **the development of electronic school courses**.

Through information technologies the knowledge is presented in electronic form. E-teaching is mainly e-learning with access to Internet resources. Through e-teaching extensive tasks, those provide knowledge, can be worked out. Pieces of knowledge are connected in a clear logical sequence, the information streams are refined, a transfer between close and related fields of knowledge and culture is realized, with the help of cooperation and interaction team-work skills are created. The resulting knowledge and experience are applied on a new level — a product (new knowledge) is created and it is the result of collected and stored information. This product can be controlled, evaluated and spread constantly. This greatly increases the speed of reviewing, understanding, rationalizing and applying of specific information. Information technologies increase the interest of the students towards the learning materials, they also influence the level of approval or disapproval of the learning material. The continuous and well-timed communication in the learning process is itself a result for the level and quality of *comprehending* the “new” and for the growth and management of the available knowledge.

### 3. Teaching and Understanding

*Understanding* is the last phase of apprehension: comprehending an information message means building a relationship between the object of understanding and the remaining facts along the way of association and on the base of available knowledge. A lack of communication experience does not only disallow correlating related situations, but also seriously lowers the depth of comprehension. A necessary requirement for the correct comprehension is the logical grounding of information. In result of an analytic-synthetic processing, there is interweaving of the isolated parts with the whole, as well as common relations and certain laws are deduced. One of leading principles for “efficient teaching” is the creation of additional thought patterns within the material that is to be learned. Organization of the material requires understanding of how these thought patterns are presented, how the meaning is memorized and stored, how to deduce and apply in new situations. Insufficient knowledge limits comprehension!

The meaning is stored in the shape of connections. To speak about the meaning of an object/thing means that this object/thing has to be connected to another thing (Kimble, 1999). Knowledge never acts without the participation of meaning. The meaning allows transitions from one content to another, the combining of contents and their generalization. A proper concept has both a meaning and a sense. The cognitive aspect of meaning is engaged with the understanding and explanation of information. Meaning expresses, the understanding for the respective reality. It is the basis for explanation from a specific standpoint or with a specific aim. If the cognitive side of meaning is connected to the understanding and explanation of what is happening and the combining of the separate contents in whole meaningful units, its pragmatic side connects to generating and realizing of the aim.

Children need more information than the one basic knowledge includes. They aspire towards access to the information and towards “discovering” strategies for satisfying their demands. Quickness of mind during the checking of solutions to the cognitive tasks is one of criteria for intelligence.

**Natural language** is an expressive and communicative function of thought, through the use of signs with the same meaning for a given group of people and within the boundaries of a certain territory. Language is at the same time an act and a tool in communication. Language is a privileged tool of socialization; owing to it conveying ideas and thoughts, influencing, adapting and self-expression are possible. Language is at the same time the chief tool of thought and the basics of social life. It is influenced by the volume, the comprehension and correct usage of the compositing words. The volume of the vocabulary has a tendency to reflect abilities. A big part of teaching is pointed towards the learning of concepts from a specific field, thus the vocabulary growth is an important aspect in the learning growth. Vocabulary is the basic component for reading and writing and is a prerequisite to a number of forms of intellectual activities.

#### 4. UNESCO Database

*Why was a UNESCO Database created?* Because

- we assume that this age (where children have little experience, but are very enthusiastic to express themselves outside of the textbook) is suitable for in-depth familiarizing with the values, that provoke a sense of pride of our Homeland;
- the sites possess an exceptional cultural and historical meaning to the common heritage of humanity, they should be popularized and stored for the generations to come. All of this should be known and remembered!
- Information technologies provide every pupil in class with the opportunity “to see” the sites, maybe for the first time.

UNESCO Worlds Cultural Heritage Sites in Bulgaria include seven architectural-historical sites (Figure 1). For the first time in 1979 four sites are inscribed in the List of sites protected by UNESCO that fulfill certain conditions (refer to UNESCO Criteria for Selection): № 42 Boyana Church, № 43 Madara Rider, № 44 Thracian Tomb of Kazanlak and № 45 Rock-Hewn Churches of Ivanovo. The following two sites were inscribed in 1983 — № 216 Rila Monastery and № 217 Ancient City of Nessebar. The last one — Thracian Tomb of Sveshtari — was inscribed in 1995 as № 359.

1. Boyana Church — one of the few entirely preserved middle age monuments, with unique frescoes by painters from 1259. The church is also famous for having the first depiction of Saint John of Rila.
2. Madara Rider — the only one of its kind rock relief in Europe from early middle ages, carved in 8–9<sup>th</sup> century.
3. Thracian Tomb of Kazanlak — a Thracian cultural masterpiece from 4–3<sup>rd</sup> century BC. It is the oldest Thracian tomb in Europe with the best preserved frescoes — examples of ancient painting from the early Hellenistic period.

4. Rock-Hewn Churches of Ivanovo — a complex of small rock-hewn churches, chapels and cells, carved at a height of 6 to 10 meters near the village of Ivanovo. It is an example of middle age Bulgarian art (11–14<sup>th</sup> century). Well preserved unique frescoes dating from 13–14<sup>th</sup> century are some of the most significant examples of monumental painting on the Balkans.
5. Rila Monastery — the biggest monastery complex in Bulgaria, and the second on the Balkan Peninsula /following Mount Athos/, was founded in 10<sup>th</sup> century by John of Rila. A monument of Bulgarian middle age painting. It is one of the most important and culturally enlightened literary centers throughout Bulgarian history.
6. Ancient City of Nessebar — one of the oldest towns in Europe — founded over 3000 years BC as a fortified Thracian center called Mesambria. It is an architectural blend, mixing an ancient fortification wall dating from 5–4<sup>th</sup> century BC, early Byzantine churches dating from 5–6<sup>th</sup> century AD, Bulgarian churches from 10–14<sup>th</sup> century and over 60 renaissance houses from 18<sup>th</sup> century. The Nessebar churches maintain their own artistic architectural style and rich exterior decoration.
7. Thracian Tomb of Sveshtari — Thracian-Hellenistic king's tomb dating from 3<sup>rd</sup> century BC. It combines culture, art and architecture.

The Database consists of six site types: city (Ancient City of Nessebar); monastery (Rila Monastery, Rock-Hewn Churches of Ivanovo); church (Boyana Church); tomb (Thracian Tombs of Kazanlak and of Sveshtari); relief (Madara Rider) and dictionary. All objects of the Database are complex objects and are represented by tree structures.

### 5. E-dictionary in UNESCO Database

*Why the dictionary is included in the Database as an object?* Because

- it is the most logical alphabetically ordered semantic field, where the linguistic thought algorithms are built. A field, which by itself creates authority, allowing personal choice and versatility in what is being read and what is already read;
- it demonstrates the transition from semantics towards semiotics — from meaning towards the symbolic nature of language — and develops the linguistic culture of the learners;
- outside of context words allow for lingual creativity, development and accurate language use;
- vocabulary in the field of lexicology reveals the connection between written and spoken language, and the frequency of word usage defines them as terms;
- the dictionary provokes correlation between word and image, speed of thought, creation of terminological clarity and a language circle, that shares common interests;
- through it, in a specific way, the epistemological genetically defined instinct of acquiring knowledge is developed;

- this is a way for an unintentional, non-narrative directing of interest towards learning goals;
- the main terms and concepts are used as an information reference point to building an accessible, understandable and defining terminological apparatus during the mastering of specific knowledge.

The E-dictionary shows a variation of “reading” and “comprehension” of the words in it; here the meaning changes to researching, a feeling for identity and community, idea forming relations, thought systems and behavior patterns. The dictionary provides knowledge for the authenticity and originality of the cultural sites, because the lack of such knowledge leads to misunderstanding their distinctiveness. The dictionary is unique with its entries and development method, rich with its contents. It provides the opportunity that its users acquaint themselves with and comment on the cultural-historical heritage under the protection of UNESCO, modern discoveries and researches for it. The dictionary can be regarded as:

- a reference point in the diversity of historical values, revealing specific concepts in relation to the history of Bulgarian traditions, architecture and art;
- specific knowledge, adding to general knowledge and a child’s outlook on the world;
- an adapted interpretation of words, with appropriately presented meanings — not briefly defined concepts, but also new information that gives the opportunity to understand the meaning and the different usage of a certain concept, and how it relates to the whole spectrum of knowledge;
- a readily accessible reference book that offers information for the shape, meaning, usage and origin of words.

The dictionary has been enriched with a large number of words “new” to 9–11-year-old learners, words that are connected to the Bulgarian cultural-historical heritage sites protected by UNESCO. It aims to enrich and systematize knowledge, to create depiction and expression skills, to heighten historical, literature and grammatical culture, to form and develop an interest towards cultural-historical values and an interest towards the achievements of ancient civilizations, Bulgarian revival writers and contemporaries. The interpretations are represented via accessible definitions and accurate and suitable synonyms, where available. Synonyms are added, because they are one of the main tools to enriching one’s active vocabulary and to better language use on a semantic, stylistic and expressive level. Regarding origin, it was accepted that pointing out the language of origin or loaning would be both curious and memorable by learners. In accordance to age, a more traditional alphabetical order is chosen, as opposed to a systematic arrangement (e.g. in areas, sites). This way ambiguity and repetition are avoided.

**The word selection** was made on the basis of texts and collected materials about Bulgarian cultural-historical sites under the protection of UNESCO. The selection criteria were choosing in correspondence with the basic words for describing the sites. The contents, volume and design of the dictionary depend on: measuring



**Figure 1:** A screenshot presenting the objects of the Bulgarian cultural heritage.

the adapting and adjusting abilities of the growing learner to learn in his own way the provided information; the lack of sufficient knowledge and limited vocabulary. The dictionary includes clear, relatively short entries aiming to aid the learner in understanding as accurately as possible the meaning and to use those concepts correctly. It is intended for learners in a class environment, extracurricular activities — alone or in a group.

**The dictionary is created aiming:**

- to collect, select and suit, for quick easy and correct use, concepts, which are not part of the main vocabulary of the target group age;
- to memorize, explain and understand concepts for describing the historical heritage of Bulgaria; to help in its studying;
- to remove the language template — to develop a language sense and to master the diversity of word forms. This way inaccuracies and mistakes in expressing are avoided;
- to stimulate the necessity for searching and using an appropriate concept for a more correct and appropriate usage;
- to be used as an intellectual support, with which we provide the possibility for personal selection, choice, motivation and interest to learn, understand, systematize, enrich and spread knowledge about the Bulgarian cultural-historical heritage sites, as well as similar ones in nearby regions.

## 6. Dictionary Entry

The dictionary entry is presented in the Database through a tree structure (Dimitrova, 2009). There are 3 types of dictionary entries — according to the headword:

**entry1** — the headword is a word (artifact, basilica, unique) (Figure 2);

**entry2** — the headword is a group of words (Madara Rider, University of Constantinople, cultural heritage);

**entry3** — the headword is an abbreviation (EU, NATO, UNESCO).

The abbreviations in entry3 are separated into two types:

**Type1** = letters like UNESCO (from United Nations Educational, Scientific and Cultural Organization)

**Type2** = syllables like UNICEF (from United Nations Children’s Fund)

**Table 1:**

```
<entry3>
  <headword>UNESCO</headword>
  <definition> United Nations Educational, Scientific and Cultural Organi-
    zation </definition>
  <type1>UNESCO </type1>
  <etymology>United Nations Educational, Scientific and Cultural Organi-
    zation </etymology>
</entry3>
```

The dictionary will contain 1000 entries, whose headwords are:

- 627 words from the school textbooks;
- 26 words remaining from Old Church Slavic and used by the learners: *азбука* (alphabet), *летопис* (annals), *легенда* (legend), *приказка* (tale), *прослава* (glory), etc.;
- 74 specific concepts, necessary for describing the cultural-historical sites, e.g. relief, quadriga, caryatids;
- 248 concepts used in textbooks without explanations, e.g. amphitheatre, archive, polis, etc.;
- 20 names of Greek cities, areas, mountains, e.g. Pulpudeva, Serdica, Haemus;
- 5 that specify the meaning of hard to pronounce and remember names such as Богородица Елеуса — *Милостива* (Mother of God Eleusa — *the Merciful*), Теодор Стратилат — *пълководец* (Theodore Stratelates — *the General*).

## 7. Conclusion

This article describes E-dictionary as an accessible tool to supplement the learning material. We put an emphasis on the term tool, because it is included in the whole spectrum called instruments for both sides of teaching — teaching and learning.





**Figure 2:** A screenshot presenting a dictionary entry with a headword *basilica*

This is a dictionary that leaps over the conventional understanding of a paper dictionary. It defends the logic of the broad encyclopedically needs of a students' knowledge and is an equivalent to the personal choice in the field of knowledge. Naming is also appropriate because our understanding of an E-dictionary is similar to the existence of different types of speech in the communication between people, for example, paralinguistic, oral and written, monological and dialogical speech. This notion opens the door to a new world with sensations and logical relations on the verge between words and thought, between a pictogram and ideas and transforms teaching and learning into a real interaction between teachers, learners and learning content.

The E-dictionary gives the pupils a tool, arming eyes and his mind in the discovery of all kinds of analogies, metaphors, comparisons and correlations. The E-dictionary gives him confidence in his previous knowledge as well as the possibility to apply and rediscover it in a new way, "here and now". It avoids wasting time and movement. The greatest aspect of the E-dictionary is the feel that the child is enjoying — the "discovery" of a word, its meaning and origin give him pleasure and motivation to continue acquiring new knowledge.

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