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AUGMENTED REALITY IN LANGUAGES STUDYING

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Annotation. *Nowadays Augmented Reality has rooted in our society, but this technology is still new and it develops from year to year. Some thirty years ago we could not imagine that this technology would be very useful and could change our lives.*

Key words: AUGMENTED REALITY, INFLUENCE, CLASSROOM EDUCATION, GOALS, FOREIGN LANGUAGES STUDYING.

Augmented Reality (AR) is a technology for superimposing information in the form of text, graphics, audio and other virtual objects on real objects in real time [1].

Augmented Reality is more and more used in different human spheres: design and modeling, medical training, repair and maintenance and in many others. Nowadays even classroom education uses this technology. During all this time students studied with different static images or layouts, which do not contribute to the effective understanding of the subject of study. At present everything has changes in virtue of Augmented Reality.

This topic is relevant nowadays, because introduction of this technology into the educational process will undoubtedly increase student's motivation in learning English and other disciplines, as well as increase information assimilation level, synthesizing various forms of its presentation. According to research, more than 90% of students successfully assimilate material using Augmented Reality [2].

This field of human activity is developing very fast, the International Data Corporation (IDC) research noted that the global market for Augmented and Virtual Reality technologies in 2020 would grow by 78.5% compared to the previous year, reaching \$18.8 billion [3].

Augmented Reality has some huge, remarkable advantages: clarity, information completeness and interactivity.

The goal of this work is to analyze modern printed editions that already use this technology and understand their main parts to create new, useful and cognitive printed textbook with Augmented Reality application that will help people, especially children, in the English language studying easily.

Technology of Augmented Reality can significantly expand the capabilities of the educational process. Children like to assimilate new information in such a visual form, as they begin to work with a computer from a very young age.

The use of vivid, memorable visualization when explaining complex topics, as well as giving children the opportunity to use the technologies of the future themselves, is a godsend, and in virtue of this, children will have the desire and the opportunity to use modern technologies for their own benefit.

In order to achieve the aim of this work, there some great and interesting examples of printed editions, which use Augmented Reality technology, are described.

“Toy stories” is a series of interactive materials for learning English that combines both traditional approaches for education (printed sources) and new generation technologies, Augmented Reality technologies [4]. There are different materials that can assist in studying English language: Augmented Reality books, coloring books, puzzles and even mugs. All these products are integrated with the “Toy stories: English for kids” application.

The “Toy troubles” (pic. 1, a) is a book for children, that gets to know the characters, learn the construction “to have something”. This book includes a huge amount of flat illustrations with a small textual accompaniment. Characters are pictured in an easy way, without lots of details, using simple forms. Each illustration is colorful and pleasant for children’s eyes. The colors were selected correctly, that is why they are combined with each other perfectly and convey main heroes mood.

Textual accompaniment was created in a way of handwriting font. Letters do not have serifs that is why it is very easy to read all the paragraphs there. The font size is quite big and children can see each letter perfectly and read it afterwards.

This book would not be so interesting and cognitive without Augmented Reality. Markers for targeting are illustrations on the textbook pages. When smartphone hovers over them, the heroes created in 2D graphics come to life: they move, interacting with other heroes of the book, talk and teach children the English language.

To use Augmented Reality in this book, children need to download the “Toy stories: English for kids” application from the App store (for IOS) or get it on Google Play (for Android), then hover smartphone on the book (pic. 2). Through the use of the application, children can improve their knowledge of English, listening to the correct pronunciation, watching animated characters of fairy tales, collecting puzzles, answering the author's questions and following the adventures of the heroes of the books.

There are some more books of this series, which teach children other topics. For example, the next book “A day at the park” (pic. 1, b) assists children to practice the place prepositions, the construction “to be”, and another one – “Meet my friends” (pic. 1, c) – has vocabulary and grammar to describe appearance and character. All these books have the similar design and use the Augmented Reality technology.

All products of “Toy stories” are aimed at creating a linguistic environment. It is the perception of foreign speech by ear, memorization of the phrases and expressions most used in modern English, and grammatical structures development.

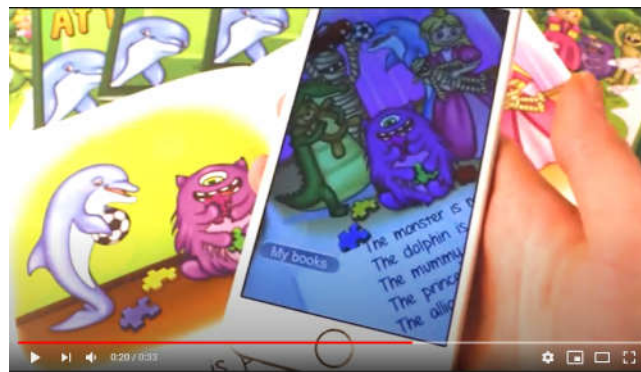
Other examples with Augmented Reality are the books “Alphabet Come-to-Life” (pic. 3, a) and “Counting Come-to-Life” (pic. 3, b) which were released in September 2018 by publishing house «Little Hippo» and the developers of Live Animations [5].

The book “Counting Come-to-Life”, as well as some previous examples, include a great amount of flat illustrations on each page, but the “Alphabet Come-to-Life” represents new view: illustrations in it smoothly flow from one to another on the page spread. Both

books pictures design reproduces a textile stitching style. All illustrations are colorful and bright, all characters look very nice, they attract the reader's attention.



a) "Toy troubles" book; b) "A day at the park" book; c) "Meet my friends" book



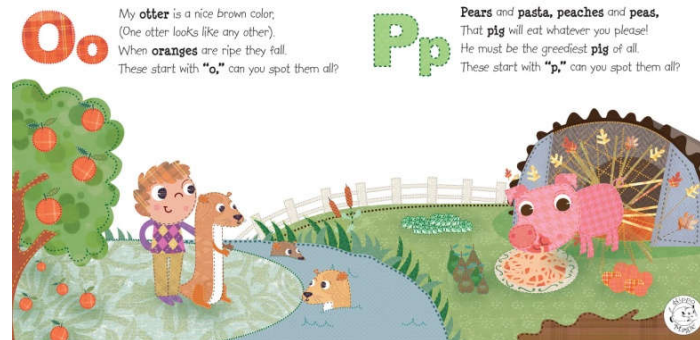
Picture 2 – The "Toy troubles" book in a use



Picture 3 – The books: a) "Alphabet Come-to-Life" b) "Counting Come-to-Life"

The textual accompaniment was fulfilled in a way of combination of handwriting and printed fonts. There are serifs on some letters and probably it will be a little bit harder to read, because some children might not make out some of these letters.

Every letter of Alphabet (from A to Z) in the “Alphabet Come-to-Life” has its own color and it is presented in a big size near to each its paragraph (pic. 4). Some of the words are marked bold, because children will deal exactly with these words using Augmented Reality.



Picture 4 – Pages of the book “Alphabet Come-to-Life”

Every number (from 1 to 20) in the “Counting Come-to-Life” has its own color as well and all numbers are placed in the middle of each page or sometimes one number on the page spread (pic. 5).



Picture 5 – Pages of the book “Counting Come-to-Life”

Through Augmented Reality using, youngest readers will be able to learn to count and read with the help of innovative technologies. AR markers in these textbooks are pages and covers. Reader need to download the free “Hippo Magic” application, which is suitable on Android and Apple smart devices such as phones or tablets, choose the book and direct camera on illustrations or on the book covers (pic. 6). After that characters, created in 2D and 3D graphics with musical accompaniment, come to life right on book pages, helping users to assimilate new information better, gaining new knowledge and getting to know the world around them in an interesting way.



Picture 6 – The books “Alphabet Come-to-Life” and “Counting Come-to-Life” in a use

Books characters are letters, numbers and Professor Little Hipp. Professor teaches children the alphabet and elementary numbers. Children ought to do exercises, add words on their own and discover the world of numbers and letters. Owing to Augmented Reality this process is becoming more interesting and cognitive. Analysis of printed English textbooks with Augmented Reality application have showed their disadvantages and advantages.

Sometimes illustrations of printed editions were full with different things that should not be placed there, some fonts there were a little difficult to read, especially with serifs, and sometimes colors were pale while using the Augmented Reality application. All of the above are disadvantages of these printed editions. All the rest were the advantages which help young generation in studying the English language.

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