К.А. Цуркан

Национальный исследовательский
Томский политехнический университет

Introducing modern digital learning methods in home reading to increase the effectiveness of foreign language training

This article examines the effectiveness of home reading in student's independent work considering the use of modern digital learning techniques. The article explains the known methods of homework reading using integrated into reading sphere electronic applications, explaining their advantages and perspectives.

Key words: advantages; digital learning; effectiveness; homework reading; literature; motivation; Student Independent Work.

Student Independent Work (SIW) is a method of in-depth study of material, performed at the student's initiative or instructor's direction. SIW is crucial element in the educational process because most often self-work aimed for greater student's involvement in the subject that is studied. As a result, information and experience gained by motivated student is learned better. Homework reading is part of the SIW. It includes several basic types of texts: non-adapted literary works, adapted literature, non-fiction texts, internet resources, scientific and specialized literature.

The essence of homework reading [1, 2] is to expand the student's knowledge base by reading and analyzing recommended literature. Home reading not only helps to improve vocabulary and accelerate the language learning process, but also helps emphasize knowledge from areas in which the learner is interested, including professional development. It is obvious that learning a language mainly through reading increases proficiency. The more a student reads, the faster the educational process of language acquisition proceeds. For example, according to a British Council study [4], students who engaged in home reading while learning a language were 34% faster at learning the language.

The effectiveness of independent reading can be increased using modern digital methods in reading sphere. Modern digital methods of learning are techniques that based on using electronic devices and applications their functions in order to integrate them into studying process for more effectiveness language training. There are several ways to modernize reading. The following methods has reached significant successes:

1) The most well-known technology is e-books. For example, Apple Books and Google books apps show a good way of modern technologies implemented in reading. An e-book is a reading device that includes many features that make reading more comfortable. Among them are built-in

dictionaries that allow to get the definition of an unfamiliar word while reading the text. It is important because built-in dictionaries reduce the time it takes to search for a word and take into account the context where the word was used. Several research show (e.g. [5]) students use e-books with built-in dictionaries shows a better result (about 10–20%) in terms of lexical learning;

2) Applications with Text-to-Speech function. For example, Audible and *Whispersync* (produced by Amazon). For foreign language students (e.g., as in the University of North Dakota study [6] it can help them memorize information faster even when reading complex texts (scientific literature, articles, etc.) by supplementing visual perception with auditory perception This is especially useful for difficult languages or accents. In a study published by National Literacy Trust charity organization, written that «2 in 5 (43.1%) children and young people agree that listening to audiobooks helps them understand a subject» [3]. Some disadvantages of the TTS should be noted: lack the expressiveness and intonation of natural human speech, what may make listening TTS audio less engaging; problems with reading some parts of scientific literature texts (tables, mathematical equations, and special symbols are noted); difficulties with correct accent placement; reading proper names;

3) Social platforms. The main advantage of such platforms is the possibility to discuss texts with other users. For example, on the Goodreads platform, there are clubs for learners of English, German, Spanish and other languages where members share reviews of books written in those languages. They can discuss lexical and grammatical features and share tips and resources. Research shows that participation in social reading platforms increases reading approximately at 40% as students receive motivation and support from the community [6]. Another advantage of social platforms is an ability to personalize literature lists by suggesting to readers texts based on their level and preferences. In addition, social platforms allow users to create small online literary groups to discuss topics of interest to them and to help newcomers;

4) User-level adaptation applications. There are different variations of digital libraries tailored to specific audiences. ranging from children to students or professionals in their field of expertise. Such platforms use algorithms to determine a user's current level and select texts of appropriate complexity, gradually offering more challenging content as they progress. For example, Newslea – a platform where a user is able to choose complexity of articles, starting from basic level and up to professional language skills.

Another advantage of using modern digital techniques in homework reading is the increasing user's motivation in reading. Using various functions of electronic applications and online platforms permit to make student's involvement into studying greater than without. Firstly, this fact is based on an ability of applications personalize user's recommendations considering a

student's level and interest. Secondly, on social platforms a reader can discuss the material with other users. This opportunity is used to organize online literature clubs where readers share their experience and support other people interested in reading for special tasks, started from reading for pleasure and finishing by highly specialized reading. Using modern digital methods in homework reading undoubtedly contains a plenty of advantages and conveniences that provide more interesting way for studying independently, although there is a need to mention some disadvantages that can reduce studying effectiveness for an untrained user. First of all, a risk of student cognitive overload. A lot of functions of electronic applications, including possibility for both audio- and text using, can cause difficulties in learning. Untrained user will not be able to cope with lots of functions, what will reduce the studying progress. Secondly, most often technologies are prepared for mass market, without considering cultural aspects of nationalities and their language. For example, Newsela platform translates articles using not only editors, but also machine algorithms based on the length of sentences and vocabulary level used. It allows ranging articles by complexity level but often on the basic language levels some aspects and words are not mentioned. In the articles where climate changes described, some climate terms, such as «feedback loop» or «climate justice» did not get correct definitions in the text for readers whose English level is lower than the original articles required. Thirdly, constant using of electronic devices can be a cause of eye fatigue and «digital burnout». In a long-term perspective, it means decreasing of cognitive abilities and consequently progress stagnation or deterioration. Fourth, constant using of electronic devices can provide some difficulties with self-control. According to the National Education Technology Plan, due to the high cognitive load from constant using in electronic devices during SIW affects students' ability to focus deeply on the tasks. This cognitive load from multitasking (a necessity to use lots of functions while working with electronic applications) drains students' self-control in maintaining focused [7].

All in all, introducing modern digital learning methods in home reading to increase the effectiveness of foreign language training show good results despite of the mentioned above problems. Statistics shows that at least one third of students who applied modern methods of reading managed to reach a multiple improvement in SIW efficiency. Most of the shortcomings are rooted in human factors, such as lack of self-discipline and undeveloped skill in handling a new resource. It is worth remembering that although applications have many functions, the interface is designed to be as user-friendly as possible. Among the conceptual shortcomings are imperfect algorithms for complexity estimation and machine learning, which are constantly being improved.

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Scientific supervisor: Aksenova N.V., PhD in Literature, docent.