TEACHING READING THROUGH TECHNOLOGY

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Abstract: *Reading is considered a skill of upmost importance by both second and foreign language students and teachers. It is also a skill learners of a second language often find difficult to develop to a high level of proficiency, since fluent reading is regarded as a rapid, purposeful, interactive, comprehending, flexible, and gradually developing process. Modern technologies in the foreign language classroom can be used to assist in the development of fluency in reading, as well as in improving digital fluency. The article examines the nature of reading, the role of ICTs in the context of developing students' reading skills and presents some ideas on how to implement technology in the ESL classroom.*
        Key words: *reading skills, modern technology, foreign language teaching*

ПРЕПОДАВАНЕ НА ЧЕТЕНЕ ЧРЕЗ ТЕХНОЛОГИИ
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Резюме: *Четенето се счита за умение от изключителна важност както от учениците, така и от учителите по втори и чужд език. Това е и умение, което изучаващите втори език често намират за трудно да развият до високо ниво на владеене, тъй като свободното четене се разглежда като бърз, целенасочен, интерактивен, разбиращ, гъвкав и постепенно развиващ се процес. Съвременните технологии в чуждоезиковата класна стая могат да се използват за подпомагане на развитието на плавното четене, както и за подобряване на дигиталната плавност. В статията се разглеждат същността на четенето, ролята на ИКТ в контекста на развиването на уменията за четене на учениците и се представят някои идеи за прилагането на технологиите в класната стая по БЕЛ.*
        Ключови думи: *умения за четене, съвременни технологии, чуждоезиково обучение*

Introduction

The four language skills of listening, speaking, reading, and writing have been identified as skills "of paramount importance" when it comes to being competent in a language (Brown 2007: 232). Reading and listening fall into the category of receptive language skills, since language users receive a language input, while speaking and writing belong to the productive language skills category where language users produce an output in some form of spoken or written discourse, i.e. "produce language themselves" (Harmer 2007: 265). These four macro skills can also be viewed as oral or oracy skills (listening and speaking), and literacy skills (reading and writing). This distinction is based on the idea that "foreign language learning should follow the similar path of mother tongue acquisition" starting with an emphasis on developing first listening, then speaking and only then reading and writing (Ivanova 2017: 18).

        Although these four macro skills are usually treated in separate sections of coursebooks and foreign language curricula, in recent decades there is a tendency towards skill integration, since as Douglas Brown (2007: 234) claims "the integration of the four skills is the only plausible approach within a communicative, interactive framework". Eli Hinkel also points out that "it is rare for language skills to be used in

isolation" (2010: 114). Moreover, educators need to take into consideration that today's students belong to the generations Z and alpha for whom implementing modern technologies in all aspects of their lives, including education, is a compulsory element. Therefore, today's language pedagogy should not only involve integrating the four language macro skills, but also take advantage of students' computer literacy skills so as to ensure a more engaging and more effective learning process.

Receptive language skills – characteristic features

Receptive language skills involve the processes of reading / listening and comprehending a language input. Although listening belongs to the group of oracy skills and reading – to literacy ones, these two macro skills share many common features. One of these common aspects is the exposure to language input. Stephen Krashen (1989) singles out that being exposed to "comprehensible input" is of upmost importance for acquiring vocabulary and spelling and, therefore, facilitates the process of language acquisition. Jeremy Harmer (2007) also puts an emphasis on the importance of learners' exposure to comprehensible input (in the form of various audio materials and reading texts), stating that "the more we see and listen to comprehensible input, the more English we acquire, notice or learn" (2007: 266). The author also discusses the feedback that teachers provide as another source of input which students receive. Another common feature is that both listening and reading comprehension processes require some activation of pre-existing universal and culture-specific knowledge of the world – referred to as "mental schemata" (Ivanova 2017: 16).

Receptive skills of listening and reading also share common processes in comprehending information – these are top-down and bottom-up processing. Harmer (2007) compares the difference between them to "the difference between looking at a forest, or, instead, studying the individual trees within it" (2007: 270). The idea behind this metaphorical expression is that in top-down processing the reader or the listener gets a general idea of the input, thus allowing them to activate their pre-existing knowledge. In bottom-up processing, the reader / listener concentrates on individual language items and achieves understanding of the whole text by stringing them together. These two types of processing information are closely related to the two main types of listening and reading: top-down processing is employed in listening and reading for gist and bottom-up processing – in listening and reading for detail (Harmer 2007: 270).

Despite some significant differences between the receptive skills of reading and listening, the classroom procedures for teaching both are often quite similar. A standard teaching procedure when reading a text or listening to an audio material involves two main task types. In the first type students usually read or listen for some general understanding of the input, while in the second type they need to take a detailed look at the written text or to listen to the recording more carefully "for specific information or for language points" (Harmer 2007: 270). The successful implementation of the abovementioned reading and listening procedures involves having a number of sub-skills (micro skills) which turn out to be quite similar for both receptive macro skills. Ivanova (2017) suggests the following list of the micro skills which are involved in the successful listening and reading: identifying the topic; predicting and guessing; reading/listening for general understanding; reading/listening for specific information; interpreting the text (2017: 17).

Developing reading skills

Reading is considered a skill of upmost importance by both second and foreign language students and teachers. It is also a skill learners of a second language often find difficult to develop to a high level of proficiency, since fluent reading is "rapid, purposeful, interactive, comprehending, flexible, and gradually developing" (Grabe 1991: 378). Grabe (2010) defines reading as "the ability to derive understanding from written text" (2010: 3), pointing out that this simple definition includes at least five essential features:

- Reading is **a rapid and automatic process** – requiring automatic word recognition and activating information both from the text and the reader's mental schemata.
- Reading is **an interacting process** – it requires an interaction between a number of skills and abilities as well as "an interaction between textual information and background knowledge" (2010: 3).
- Reading is **a flexible and strategic process** – good readers can "adapt strategically" in order to achieve their reading purposes (2010: 4).
- Reading is **a purposeful process** – the main purpose of reading is to comprehend a written text. In academic contexts the reading purpose is usually set by the teacher. Wallace (1993) distinguishes three main types of purpose: *reading for survival* (i.e. being able to read written messages serving immediate needs such as 'ladies', 'gentlemen', 'exit', 'stop', etc.), *reading for learning (also falling into three categories: for specific purposes, for general purposes, and for pleasure in the second language)*, and **reading for pleasure** (1993: 6; 63-70).
- Reading is **a linguistic process** – readers first need to be able to process a text linguistically in order reasoning processing to occur (Grabe 2010: 4).

Ivanova (2017) also discusses the characteristic features of reading, pointing out that apart from being a receptive skill, it is also a literacy skill which involves both "familiarity with the encoding system" and consideration about the characteristics of written discourse, such as: permanence, processing time, distance, orthography, complexity, vocabulary and formality (2017: 84-85).

In his article "Reading: A Psycholinguistic Guessing Game" Kenneth Goodman (1967) manages to debunk the myth that reading is a precise process by comparing it to a psycholinguistic guessing games which involves "not great precision, but more accurate first guesses based on better sampling techniques, greater control over language structure, broadened experiences and increased conceptual development" (1967: 132). Brown (2000) considers the abovementioned article a crucial factor in making second language specialists begin to tackle the issues regarding second language reading pedagogy. He also implies that this new approach has led to a clearer distinction between the two different types of processing a written text – *bottom-up* and *top-down* processing. Brown (2000) refers to the operations occurring in bottom-up processing as "data-driven" ones, involving both recognizing the linguistic items (e.g. letters, morphemes, syllables, words, etc.) and imposing some sort of order on them, so that to achieve meaning. The operations occurring in top-down processing of written texts are referred to as "conceptually driven", since "readers must, through a puzzle-solving process, infer meanings, decide what to retain and not to retain, and move on." (2000: 299).

Various models on how written texts are comprehended have been designed by researchers. Some suggest that apart from the two categories of **bottom-up** and **top-down models** of processing a written text, there is also a third one – i.e. the category of **interactive models**. Anderson (1999) refers to bottom-up models as containing "lower-level" processes related to recognition of linguistic items at various levels, thus achieving comprehension. Respectively, top-down models are regarded as "higher-level" processes requiring an intelligent and fluent reader who is able to integrate information from the text within their prior knowledge. The interactive models of processing written texts combine elements of both models, thus being complementary to one another. Grabe (1991) states that "reading involves both an array of lower-level rapid, automatic identification skills and an array of higher-level comprehension/interpretation skills" and views the term "interactive approaches" as referring to two different conceptions: the first one being "the general interaction which takes place between the reader and the text" and the second one – "the interaction of many component skills potentially in simultaneous operation" (1991: 383).

Neil Anderson (1999) also agrees that the most successful second language readers are those who can integrate bottom-up and top-down processes, so that to compensate for any deficiencies. Based on his own teaching practice, he suggests a framework of eight teaching strategies which can be applied in second language classes for developing students' reading skills. The first six of them form the word "ACTIVE": A – Activate prior knowledge; C – Cultivate vocabulary; T – Teach for comprehension; I – Increase reading rate; V – verify reading strategies; E – Evaluate progress. He also discusses building motivation and "planning and selecting appropriate reading materials" as important teaching strategies (1999: 4).

The two main types of processing a written text are closely related to the two main types of reading, i.e. **skimming** and **scanning**. Skimming consists of "quickly running one's eyes across a whole text" and provides readers with the opportunity to get the general idea of the text, by predicting "the purpose of the passage, the main topic, or message, and possibly some of the developing or supporting ideas". Scanning is "quickly searching for some particular piece or pieces of information in the text", such as a date, a name, a key concept, etc. (Brown 2000: 308).

Douglas Brown (2000) suggests a list of ten strategies for students to implement in order to develop their reading skills. These are:

1. Identifying the purpose of reading – students need to know what the purpose in reading a particular passage is;
2. Using graphemic rules and patterns to aid in bottom-up decoding (esp. for beginners) – this involves having a number of micro skills, such as: recognizing a core of words, interpreting word order patterns, recognizing cohesive devices in written discourse, recognizing grammatical word classes, systems, patterns and rules, etc.;
3. Using efficient silent reading techniques for relatively rapid comprehension (for intermediate to advanced learners);
4. Skimming the text for main ideas;
5. Scanning the text for specific information;
6. Using semantic mapping or clustering – arranging ideas into meaningful groups can help the reader achieve a better understanding of the passage, i.e. "provide some order to the chaos" (2000: 208);

7. Guessing (the meaning of a vocabulary item, a grammatical relationship, implied meaning, etc.);
8. Analyzing vocabulary (e.g. identifying what part of speech the vocabulary item is can help students in guessing its meaning);
9. Distinguishing between literal and implied meanings – it "requires the application of sophisticated top-down processing skills" (2000: 310);
10. Capitalizing on discourse markers to process relationships – it can "greatly enhance learners' reading efficiency" and can help readers to achieve a better comprehension of the written text (2000: 310).

Another approach to reading is to view it as being **extensive** or **intensive**. Intensive reading is usually performed under the teacher's supervision and guidance, while extensive reading normally occurs when students are on their own. According to Jeremy Harmer (2007) the term *extensive reading* "suggests reading at length, often for pleasure and in a leisurely way". Since extensive reading usually occurs outside the classroom and is more relaxed and less concentrated than intensive reading, it is considered a very helpful means of developing reading skills, especially when the reading material corresponds to the language level of the reader (Harmer 2007: 273). Some ideas for encouraging extensive reading are: providing students with access to various library resources in the form of graded readers, books, authentic newspapers, magazines, etc. or organizing after-school clubs where students can share ideas on what they have read (Ivanova 2017: 87).

When discussing intensive or classroom reading, most language teaching researchers distinguish between three main stages of a lesson with an emphasis on developing students' reading skills. Brown (2000) suggests dividing reading teaching techniques into three phases: pre-reading, during-reading and after-reading. Ivanova (2017) also observes three stages – pre-reading, while-reading and post-reading – and suggests various activities which can be performed during each one of these stages. For example, in the pre-reading stage, the teacher might decide to pre-teach some key vocabulary or revise some previously taught vocabulary items. Teachers might also attract students' attention by introducing the topic in an interesting way, asking them to discuss pictures or to make predictions and/or express opinions and attitudes, etc. The while-reading stage usually consists of two main reading task types: the first task in the while-reading stage is fast reading for getting the gist – the so called "skimming" (example activities are: checking the text against predictions, guessing the title, putting events in chronological order, etc.); the second reading is for details, i.e. „scanning" (e.g. locating specific information, matching pictures to texts, making notes, ordering paragraphs, etc.). The post-reading stage usually involves answering comprehension questions, integration of reading with other skills, some form of personalization and/or discussion (Ivanova 2017: 87).

Using technology to complement teaching reading comprehension

Advances and innovations in technology have led to changes in the social, economic and political structure of societies worldwide. These changes also affect 21st century education – it should correspond to the needs of the contemporary society by preparing students for life and work in the new digital reality. Today's foreign language pedagogy is also influenced by these current trends, which is the reason why many researchers, such as Chapelle (2003), Harmer (2007), Martin (2009), Wilkinson (2016),

Rank, Millum, and Warren (2011) to name a few, have attempted to define the role and explore the various uses of information and communication technologies in foreign language teaching and learning.

Technology should not be viewed as a replacement of qualified teachers, but rather as a tool for actively engaging students in the learning process, depending on their own learning style. Educators and psychologists would agree that due to the digital era we all live in today's students respond well to images, colours, pictures, videos – i.e. many of them fall within the category of the so called 'visual learners'[1]. Instructional technologies can also serve as a means of offering various opportunities to support and complement the process of teaching reading, since technological tools could complement all main stages and almost every specific activity in a lesson with an emphasis on developing students' reading skills.

The presented digital resource "Earth is dearer than gold" falls within the broad subject area of "Man and Science: Energy for Tomorrow" which corresponds to the English language curriculum for 11th grade (following the State educational standard for profiling preparation in Bulgaria) and the Common European Framework of Reference for Languages (level B2.1). The material was created using the tools and functionalities of the mozaBook educational presentation software, as well as a text from the *Upstream B2* student's book which served as a foundation and inspiration.

The pre-reading stage aims to attract and direct students' attention towards the topic of the text. The first task involves discussing a short video material (Fig. 1) and creating a mind map (Fig. 2) – activities which aim at activating and enriching learners' lexical knowledge related to various environmental problems.


Fig. 1   **Fig. 2**

Students also complete a task identifying various energy sources and classifying them as renewable or non-renewable. Some personalized questions regarding the types of energy sources that are used in Bulgaria, as well as where the energy obtained from renewable energy sources is used, are discussed (Fig. 3).

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[1] **British Council 2015:** British Council. Teaching Reading and Writing. Reading skills. <https://www.teachingenglish.org.uk/sites/teacheng/files/RW4_Reading%20skills.pdf (status 09.05.2023)>.
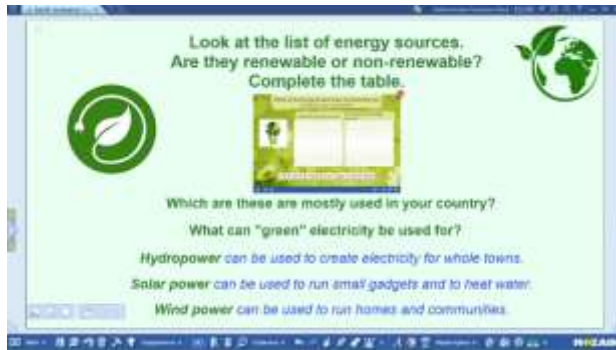
Fig. 3

Students are then introduced to the content of a short narrated animation, part of the 3D scene "Wind Power Stations" (available at: https://www.mozaweb.hu/Extra-3D_scenes-Wind_power_station-9964). This is followed by a discussion of the advantages and disadvantages of building wind farms and the completion of a gapped text – a task generated from the 3D scene (Fig. 4). The mozaBook 3D scenes contain various functionalities that help students understand the topic better, such as: rotatable 3D models, labels and hidden explanations (hints), information bars, narrated animations, built-in exercises (e.g. quizzes), etc. In the context of teaching and learning a foreign language, they can be used to facilitate cross-curricular connections, increase interest in the topic, and help to activate and enrich students' vocabulary.

Fig. 4

The while-reading stage consists of two task types. In the first reading comprehension task, students are asked to look at the picture and the title of the text, to read the first paragraph, and to make predictions about the content of the article. Then, they are asked to skim the text to check whether their predictions were correct (Fig. 5).

Fig. 5

In order to do the second reading comprehension task, students have to read the text again, this time paying more attention to details, and to complete the gaps with the most suitable sentences from the suggested list. An important functionality of the built-in Test editor on mozaBook is the feedback option, which facilitates the process of receiving and giving feedback, while justifying correct answers and discussing mistakes (Fig. 6).
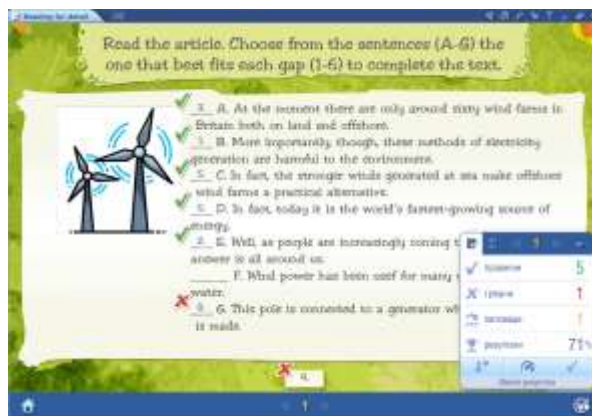

Fig. 6

The post-reading stage of the resource includes various activities aimed at integrating other language skills: there are two interactive language tasks created using the built-in Test Editor – a tool for creating interactive exercises on mozaBook (Fig. 7), a video material and a follow-up discussion in the form of a role-play debate (Fig. 8).

Fig. 7

Fig. 8

Conclusion

Reading is a skill which is often considered difficult to develop to a high level of proficiency, because of its nature – it is a rapid, purposeful, interactive, comprehending, flexible, and gradually developing process. Various techno-based digital tools can be introduced in the foreign language classroom so that to facilitate the development of fluency in reading, as well as to assist the development of digital competence. Educators should also have in mind that the integration of the four skills is the key to creating a classroom environment as authentic as possible, of course giving the proper emphasis to the specific skill that is being studied. The examples presented in the paper are far from exhaustive, but they do give some ideas on how this integration can be achieved, in order to create a communicative classroom environment that engages students to improve their linguistic and communicative competence.

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