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Research Article



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ARTICLE INFO ABSTRACT

Received: 10 Mar 2023 Accepted: 2 Jun 2023 The article presents the research of empirical mixed methods on the use of a modern mobile reading app compared to traditional forms of teaching in English business classes in higher education in Slovakia. The research belongs to the theoretical frame of the mobile assisted language learning field that has generated an interest since the early 1990 thanks to the development of mobile technologies, their features, and their functions all over the world. The research sample consisted of 40 freshman students from the University of Economics in Bratislava who were equally divided into control and experimental groups. The experimental treatment lasted one semester and was based on analyzing books on a biweekly basis from Blinkist, the reading app based on the protocol the authors created, where three higher-level thinking domains of Bloom's taxonomy (Anderson & Krathwohl, 2001) were identified. Students were also asked to read/listen to the books every week. Even though the current findings indicate no relationship between enhancing English reading skills and incorporating reading apps in a foreign language learning, SWOT analysis from focus group interviews shows different results. It is regarding the positive perception of working with the reading app in business English classes. Based on these findings, the authors make pedagogical implications about using reading apps as a part of the curriculum of blended learning in business English classes in higher education.

Keywords: mobile assisted language learning, reading apps, business English class, digital native students, mixed research methods, university setting, Slovakia

INTRODUCTION

Information and communication technologies (ICT) are an area of interest for researchers and teachers to make language teaching more attractive to students (OECD, 2015). Weblogs, audio blogs, and videoblogs have become popular in EFL classrooms in the last decade (Stradiotová, 2016) in conjunction with podcasts for developing listening skills (Stefancik & Stradiotová, 2020). Using modern mobile applications under the umbrella of mobile assisted language learning (MALL) (Chinnery, 2006; Godwin-Jones, 2011; Kukulska-Hulme, 2018; Stockwell & Hubbard, 2013) has come with the development of mobile/smartphone features. MALL stems from computer-assisted language learning (CALL) (Jarvis & Achilleous, 2013; Yang, 2013), but surpasses it because of the perceived advantage of mobility-learner mobility, content mobility , technology mobility, and so forth (Li & Hegelheimer, 2013). As Jarvis and Achilleous (2013, p. 9) emphasize, MALL is a great way for "non-native speakers … to access and/or communicate information on an anywhere/anytime basis for a range of social and/or academic purposes in L2 (second language)."

Mobile apps have become attractive as part of language teaching due to their interactivity, flexibility, and personalization (Kacetl & Klimova, 2019). Learning through MALL appears to be an effective part of blended

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learning in that autonomy and self-confidence increase with an emphasis on personalized learning. However, it is important to realize that many apps are not created by language experts and there are situations in which their implementation needs to be well thought out in conjunction with planning to meet students' needs and at the same time exposing them to the authentic acquisition of language skills (Kacetl & Klimova, 2019).

Research on apps and reading (Aghajani & Adloo, 2018; Keezhatta & Omar, 2019; Naderi & Akrami, 2018; Taj et al., 2017; Yudhiantara & Nasir, 2017) suggests the challenges associated with mobile technologies are stimulating, motivating, and fun. They lead to greater motivation and have a positive impact on the learning process and, thus, also lead to faster progress in developing English reading skills.

Apps have been developed for many skills, and the most researched one is vocabulary (Ahmad et al., 2017; Lin & Lin, 2019; Mahdi, 2017; Sato et al., 2020). This article focuses on the reading app used in this research: Blinkist, one of the most popular reading apps. It provides readers with a 15-minute version of a book by highlighting the key facts and summarizing the content. It is accompanied by audio options in which a person can listen to the book itself (Zamborova, 2020). The objective of the study was to compare the academic performance of the control and experimental groups using Blinkist as well as to explore students' perceptions of it through focus group interviews.

METHODOLOGY

Research Objectives

There were several objectives for the study. First, it was to determine the effectiveness of Blinkist, the reading app for teaching English to freshmen at The University of Economics in Bratislava, Slovakia. Second, it was to compare results in the progress in learning English for both the experimental and control groups. The third objective was to develop a protocol based on Bloom's taxonomy (Anderson & Krathwohl, 2001) for students to evaluate the books from the app and creation of rubrics for assessing the analysis. Last, the researchers prepared a SWOT analysis based on focus group interviews with the experimental group (three groups of five) to answer the following questions: What did you like most about working with the app? What did you like least when working with the app? Where did you work most with the app? What do you think you improved when working with the app? What would you change in the project for the future? General comments, and opinions.

Sample of Research

The research was carried out in year 1 business English classes at the University of Economics in Bratislava in the winter term of 2019/2020. Students were aged 18-20 years. There were two research groups-one experimental and one control group-at the B2 proficiency level based on criteria from the common European framework of reference (CEFR level) (Council of Europe, 2020) in the form of TrackTest. The number of participants was 20 in the control group (M=8, F=12) and 20 in the experimental group (M=12, F=8) divided randomly. Altogether 40 students were tested in the pre- and post-test. The research was approved by the Ethical Committee of Ethical Committee of the University of Hradec Kralove, No. 4/2023.

Instruments and Procedure

In the first week of the experiment, all students in both the experimental and control groups took TrackTest, a language test, to determine their English skills (grammar, reading, listening, and total score) before the experiment (pre-test). This test was given electronically to assess students CEFR level of English (Council of Europe, 2020). Grammar (use of English) was tested through 20 multiple-choice standalone questions categorized into 16 grammar topics with a duration of approximately 15 minutes as well as reading comprehension divided into two to five blocks of texts with five questions. Listening comprehension was tested with true/false, multiple-choice, and closed-ended questions. Listening comprehension was tested with two to five blocks of audio with five questions for each block, approximately 15 minutes. The expected maximum duration of the test was 50 minutes. There was also a choice for speaking and writing exams that were not included in the testing. The test was automatically evaluated immediately after completion. When it comes to reliability, Cronbach's alpha and interclass correlation (ICC) is 0.816-highly reliable (Tracktest, 2012-

Table 1. Book analysis protocol				
Task	Length	Domain		
Summarize the book	5-7 sentences	Synthesis		
Evaluate the book	7-10 sentences	Evaluation & critical thinking		
Create a story based on five new words	Minimum 8-10 sentences	Application, creativity, & narrative competence		

 Table 2. Total score of control & experimental groups

	Group	n	Mean	Standard deviation	Standard error mean
Total 1	Control	20	71.4375	13.80531	3.08696
	Experimental	20	74.4750	13.09929	2.92909
Total 2	Control	20	71.5225	12.71757	2.84373
	Experimental	20	78.8055	12.94697	2.89503

2020). The last week of the semester focused on collecting data on the same language skills through a post-test after the experiment.

The students in the experimental as well as in the control group were students at the University of Economics, specifically Faculty of Business Management, Business Informatics, and Faculty of Economics. Both groups were taught based on the curriculum in the market leader book in the scope of the first four units-communication, international marketing, building relationships, and success. The students in both groups were taught by the same teacher for 90 minutes once a week. Unlike the control group, the students in the experimental group were worked with Blinkist mobile reading application in a structured manner during the winter 2019/2020 semester, lasting 13 weeks. In the beginning, the teacher asked who was interested in volunteering for the research project. The response was extremely positive.

The design of the research project consisted of two tasks for the experimental group-the first task: students had to record how many books they read or listened to during each week in Blinkist reading application, and the second task was to complete a worksheet analyzing one book every two weeks. The tasks for analysis of the books were selected in accordance with Bloom's taxonomy (Anderson & Krathwohl, 2001) by focusing on synthesis, evaluation, critical thinking, and application (Table 1).

The book analysis was assessed through criteria depicted in the rubrics for the three tasks (**Appendix A**) (Zamborova, 2020).

Research Questions and Hypothesis

The research questions were the following: Does working with the reading app enhance students' English language skills? Does working with the reading app enhance students' English language skills? There was one main hypothesis:

H1. Students in the experimental group will improve their English language skills, specifically reading skills in comparison to the control group.

Data Analysis

A non-parametric Kruskal-Wallis test at a significance level of α =0.05 was used to analyze the data. The data were first subjected to a one-sample Kolmogorov-Smirnov test of normality of the data distribution. The data were normally distributed. Transparency and clarity of data were reached by presenting data processing using the tables.

RESULTS

The data showed large interindividual differences in English proficiency in each group (control and experimental). By using a non-parametric Kruskal-Wallis test, mean for the control group's pre-test was 71.44 (n=20; SD=13.8), while the experimental group was 74.48 (n=20; SD=13.1). On the post-test, in the control group mean was 71.52 (n=20; SD=71.5), and in the experimental group was 78.81 (n=20; SD=12.9) (Table 2).

No significance in the difference in the results between the experimental (χ^2 =0.481; df=1) and control groups (χ^2 =0.104; df=1) was found on the pre-test and post-test in the total score, which is higher than the

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Table 3. Total score difference

	Total 1	Total 2
Chi-square	.496	2.637
df	1	1
Asymptotic significance	.481	.104
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Note. ^aKruskal-Wallis test & ^bGrouping variable: Group

Table 4. Reading score in control & experimental groups

	Group	n	Mean	Standard deviation	Standard error mean
Reading 1	Control	20	67.0435	19.76964	4.42063
	Experimental	20	69.2320	23.57825	5.27226
Reading 2	Control	20	67.2110	21.16440	4.73250
	Experimental	20	78.5265	16.80891	3.75859

Table 5. Reading score difference

	Reading 1	Reading 2
Chi-square	.201	3.348
df	1	1
Asymptotic significance	.654	.067

Note. ^aKruskal-Wallis test & ^bGrouping variable: Group

significance level of α =0.05 (**Table 3**). The results might be a consequence that the time spam of intervention was short, and participants did not do it for their own improvement but rather for better grades.

Based on the analysis, (H1) students' improvement in the total score of the experimental groups in comparison to the control groups was not confirmed. Students in the experimental groups did not have statistically significant differences in their pre-test and post-test results in comparison to the control groups when using reading apps in their English language learning.

When it comes to testing reading skills, the same applies. There was no significant difference between the experimental and the control group. The mean for control group on the pre-test was 67.04 (n=20; SD=19.8), while the experimental group was 69.23 (n=20; SD=23.6) on the pre-test. On the post-test, the control group mean was 67.21 (n=20; SD=21.2) and the experimental group was 78.52 (n=20; SD=16.8) (Table 4).

We found no significant indifference in the results between the experimental (χ^2 =0.654; df=1) and control groups (χ^2 =0.67; df=1) on the pre- and post-test in total score, which is higher than the significance level of α =0.05 (**Table 5**).

Based on the results, (**H1.1**) students' improvement in reading scores in the experimental group in comparison to the control group was not confirmed. Additionally, listening skills and grammar were subjected to statistical analysis and showed no significant difference.

Focus Group Interviews

Three intentional and heterogeneous focus groups were formed for the present research, with five members in each group, who answered four open-ended questions about working with the app. The questions were as follows: What did you like most about working with the app? What did you like the least when working with the app? Where did you work most with the app? What do you think you have improved when working with the app? What would you change in the project in the future? General comments, and opinions.

The individual answers were categorized in regard to the question of what they liked most when working with the app: choice, added value, multifunctionality-involvement of reading, and listening skills, variability, general knowledge, meaningfulness. We created the following categories for what they liked the least when working with the app: limited availability of books and genres in the application, the load on the eyes, the preference of the book over the app, and a partial problem with the Internet. When asked what they improved, the answers were as follows: vocabulary, pronunciation, word order, grammar, and removing barriers to communication. When asked what they would change in the future, the students replied that the project was well set up, but the third part, which contains the story, could have been omitted or changed to consider adding keywords or simply creating sentences based on new words instead of a creative story. Most

of the students answered that they worked with the app at home, while some said when they were on the move from one place to another or during school breaks.

Subsequently, the students' answers were summarized in SWOT analysis according to the categories: strengths, weaknesses, opportunities, and threats (see **Appendix B**), portrayed on the very descriptive diagram).

General Conclusions

Even though it means that implementing reading apps into English language classes does not have an impact on students' English language proficiency, students' perceptions of this new learning experience were positive, as shown in SWOT analysis based on three focus group interviews.

Limitations of the Research

The students met for an English class once a week for 90 minutes, so there was not much time for discussion of their analyses as other lesson requirements had to be fulfilled. The sample of 40 students is relatively small. The research could have had different results for improvement if the students had worked with the app throughout the whole year rather than for one semester. However, it would have not been possible to achieve this as students switch teachers after a semester and might have no preferences to sign up for the course with the same teacher in the new term.

PEDAGOGICAL IMPLICATIONS

Based on the results, the following are pedagogical implications for implementing modern mobile reading apps into the English language teaching curriculum as a part of blended learning as it:

- Support a learner-centered approach: It gives students an option to work with the app as much as they want and use it whenever and wherever, so they take more responsibility for their improvement. It leads to self-learning at their own pace. Moreover, students can choose which kind of books they want to read and whether they want to work more on their listening or reading skills through the app, which are the main principles of learner-centered teaching (Campbell & Krysewska, 1992; Nunan, 2012; Weimer, 2013).
- 2. Develop reading skills of students via a new learning environment: Students have the potential to work with the mobile phone for foreign language purposes, so they experience a new way of learning (Li & Hegelheimer, 2013; Kacetl & Klimova, 2019). They are used to having a phone 24/7, so this might be a good way to use it purposefully.
- 3. **Enhance motivation towards language learning:** Based on the study, students who signed up for the language course in the summer semester with the same teacher again hoped to continue with the project. They had high motivation to improve their English through book analysis and working with the reading app.
- 4. Change the attitudes of learners towards new methods of language learning: Due to the fact, students were exposed to English more than usual (normally they have 90 minute classes) with the reading app, they worked on their English more intensively. They had to go through different stages of book analysis (summarize, evaluate, and create), so they worked with the language in a new and interesting way, requiring new mindsets and attitudes.
- 5. **Support students in developing autonomy:** Since working with the reading app asks for a high level of responsibility on the part of students, they needed to be careful about the time devoted to learning a language. Their independence was fostered as well as their maturity regarding their language and autonomous learning development (Zelina, 2018).
- 6. **Consider students' learning styles:** The students could support their learning with the audio option, meaning not only their visual learning skill was supported but also their auditory skill (Lojová, 2005). Moreover, this app can work on the go, which means a kinesthetic learning was present.
- 7. **Influence the development of other important skills, such as listening or writing:** As mentioned, because the reading apps are accompanied by an audio option, students had a chance to work on their

listening skills. The research asked for book analysis through writing assignments in which students summarized and evaluated the book and applied the new words in a story to demonstrate their narrative competency (Jursová Zacharová, 2019) and creativity (Zelinová & Zelina, 1997).

- 8. **Develop students' critical skills:** Students had to summarize, critically think about, and evaluate the advantages and disadvantages of the book as well as create their own stories based on new words. These practices are all supported by Bloom's taxonomy (Anderson & Krathwohl, 2001) for developing higher-level thinking skills (Anderson & Krathwohl, 2001), especially critical thinking and application.
- 9. **Provide students with general knowledge of student-chosen specialized topics:** Students could choose which book topic they were going to read; therefore, they could dig deeper into topics of their interest. Their motivation to read was aroused.
- 10. **Meet the needs of digital natives through a new way of learning a language:** As digital natives (Šramová, 2016) belonging to the generation born into the world of technology and can use them naturally, the apps seemed natural to them, and they could easily use them on an everyday basis. Thus, using the app became second nature as also confirmed by Sitko-Dominik (2019).

DISCUSSION

The results from the statistical analysis showed no improvement in language proficiency in all language skills and separately concentrating on testing of reading in favor of the mobile apps' effectiveness. The research lasted only one semester, 13 weeks, including the administration of pre-and post-tests. In general, the whole research concept was new to students, so they asked many questions during the first weeks and were late submitting the assignments. However, the research still provides pedagogical implications for reading apps being integrated into foreign language curricula: learner-centeredness, autonomy, motivation, and critical thinking skills as well as language skills (especially reading and listening) were supported, which are the most important predispositions for 21st century skills. Since students use their phones 24/7 and mobile apps can offer up-to-date topics, incorporating the apps into teaching foreign languages fulfills a purposeful role.

Based on Shcherbakova and Ilina's (2019) research on the effectiveness of using cooperative technology and online platforms for developing communication skills in a foreign language, we find that students are actively involved in communication activities that require goal setting, achievement, and acquisition of new knowledge. Technology can provide a broad exposure to foreign languages as well as repetition of already learned materials, mutual learning in dialogue through which individual skills, and communication, analysis, synthesis and comparison skills can be developed. Students take on new roles in language learning.

The research is further related to a study by Dmitrenko et al. (2020) on the development of fine learning skills in an ESP environment in that students can express, collaborate, solve a problem, analyze data and seek solutions based on building relationships with or without their tutors. Dmitrenko et al. (2020) showed a link between ESP learning, focusing on the problem, and developing fine skills. Students become experts on a new level characterized by creative skills, critical thinking, development of professional competence, and the ability to make decisions in a changing reality. Our research found that the above-mentioned areas appear to be key to the development of students in the 21st century. Taj et al. (2017) found a correlation between technology in the classroom using MALL and reading comprehension, which suggests CALL and MALL act as effective tools for EFL teaching. Another study by Keezhatta and Omar (2019) shows that found specifically that MALL tasks are stimulating, motivating, and fun. The findings shed a positive light on students' learning processes and increase motivation, which has an impact on reading performance.

We propose to be stricter with students regarding the deadlines for submission of assignments and changed the deadline to a weekly basis (originally it was biweekly). It took students one hour on average to accomplish the reading assignment (the app says 15 minutes to read). Future researchers should work with the app more actively-meaning more precisely collect data from students on how many books they have read during the week. Also creating a reward system in the form of collecting points for reading more books every week was suggested on the part of the students.

On the other hand, we are delighted with the positive direction of SWOT analysis, as students appreciated the choice and variability of the books and said it was meaningful to them and a fun way of learning. When it comes to drawbacks, one preferred the paper version as it caused less eye-strain, and one noted a problem with the Internet. In general, the students preferred working with the app over traditional homework, but still a structured system for rewards seemed important to them. We believe if the experiment had lasted for one school year, there would have been more remarkable results. Also, if our students had had English classes more than one time a week for 90 minutes, the results might have been double. We believe if the experiment had had English classes more than one time a week for 90 minutes, the results might have been double. We believe if our students had had English classes more than one time a week for 90 minutes, the results might have been double.

Also for this research, the protocol for the book analysis was based on Bloom's taxonomy (Anderson & Krathwohl, 2001): synthesis, analysis, and application. Rubrics for assessment of the book analysis were created, which we found was useful for the language teachers/scholars when working with the app.

As already suggested, this study supports the direction towards blended learning As Klimova (2017) reports, blended learning brings many benefits to foreign language learning in the sense that it enhances personalized learning, which means that it tries to meet students' learning needs, promotes students' intrinsic motivation, provides targeted and continuous feedback, or contributes to the broadening, practicing and revision of students' knowledge and skills by offering them additional examples and exercises.

CONCLUSIONS

The main objective of the research was to investigate the effectiveness of using mobile reading apps in year 1 business English classes in a university setting in Slovakia. The findings showed no significant difference on students' general improvement of English skills and specific enhancement of reading skills was not confirmed. However, SWOT analysis shows a difference in how the students perceived using the reading apps in the class. With its rich variety of books to choose from, the students preferred working with the app instead of doing homework.

Moreover, it was seen as a fun form of learning and relaxation in which students developed several skills at once (especially reading and listening), but they also improved in grammar and pronunciation as they lost the barriers found in real communication situations. On the other hand, the app had restrictions in the form of accessibility to a given book for a limit of 24 hours and a narrowed selection when the apps were not paid for. At this point, it is important to say that working with the app should be thought out and structured so the students can progress as much as possible in their language acquisition.

Other objectives were achieved by utilizing a book analysis protocol and rubrics aimed at developing a higher level of critical skills using Bloom's taxonomy (Anderson & Krathwohl, 2001) for summarizing, analyzing, and applying information. It led to the development of recommendations for applying the apps in an English language curriculum to meet the needs of digitally native students, as suggested in the discussion section. Based on the results, the following pedagogical implications were identified:

- support a learner-centered approach,
- · develop reading skills of students via a new learning environment,
- enhance motivation towards language learning,
- support students in developing autonomy,
- consider students' learning styles,
- influence the development of other important skills, such as listening or writing,
- develop students' critical skills,
- provide students with general knowledge of student-chosen specialized topics, and
- meet the needs of digital natives through a new way of learning a language.

While the researcher investigating using reading apps will take the implications of the present study into consideration, further research is recommended in this area. We realize there are more reading apps on the market, however, the Blinkist app is a very popular application all over the world – it has got more than 26 million downloads. The developers say that 91 percent of readers have improved their reading skills based

on their customer survey. Additionally, there are over 6,500 books available (Blinkist, 2023). In our case, it got also popularity within our experimental group as proved in the focus group interviews. Also, as proved by the teaching situation during COVID-19 and the implementation of online learning that persist even nowadays, there has been much research performed - see Klimova (2019) that blended learning is an ideal way to combine the strengths of online learning and strengths of face-2-face learning.

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Ethics declaration: The authors declared that the study was approved by the Ethical Committee of the University of Hradec Kralove, No. 4/2023. Informed consents were obtained from the participants.

Declaration of interest: Authors declare no competing interest.

Data availability: Data generated or analyzed during this study are available from the authors on request.

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APPENDIX A: RUBRICS FOR BOOK ANALYSIS

Category	Expert (4 points)	Accomplished (3 points)	Capable (2 points)	Beginner (1 point)		
Summary of	Shows an excellent	Shows a good	Shows a vague	Shows a poor		
book content	understanding of topic & criteria	understanding of topic & criteria	understanding of topic & does not fulfill criteria	understanding of topic & with very few sentences		
Critical thinking skills	Analyses pros & cons of book in an extraordinary style, adds own opinions of book that are valuable	Analyses pros & cons on book a little with a limited expression of own opinion on book	Limited critical analysis of book. Does not provide opinions of book. Critical analysis is vague.	Poor critical analysis or opinions expressed		
Creativity	Uniquely & interestingly	Student shows some originality & inventiveness. Story is presented acceptably.	Story shows limited originality & inventiveness. Story misses interesting parts & contains poor descriptions of events.	Vague or no originality or inventiveness in story		
Grammar	Virtually no grammatical errors, spelling, or punctuation errors	Some grammatical errors, few spelling or punctuation errors	Several grammatical errors, spelling, &punctuation errors	So many grammatical, spelling, & punctuation errors that it interferes with understanding ideas.		

Table A1. Rubrics for book analysis (Zamborova, 2020)

APPENDIX B: SWOT ANALYSIS



Figure B1. SWOT analysis (Source: Authors)
