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A Running Classroom. The Effectiveness of EFL Learners Practicing Listening Skills through Podcasts While Running

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Abstract

Listening skills are crucial for language acquisition. However, adult learners often struggle to find time to practise this skill due to various commitments. This study addresses this challenge by exploring the integration of language learning with running, a popular activity among adults. The research was designed to explore this possibility and measures impact of dual-task activity on listening skills, focus level and motivation. It involved a six-week programme where sixteen adult participants listened to podcasts while running three times a week. Quantitative and qualitative data was collected through pre-tests, post-tests, Likert scale surveys, observations, and interviews. The results of the study did not indicate any significant impact on listening skills. However, participants reported a very positive perception of the dual-task activity. The motivation levels were high, and the reported focus level was above average and increased over the study period. These findings suggest that even though listening skills may not significantly improve, the combination of running and listening can have a positive impact on learners' engagement and motivation. Further research with longer intervention period, bigger number of participants and more diverse listening programmes is recommended to explore the long-term effects of this approach.

Keywords: listening skills, dual-tasking, podcasts, motivation.

Streszczenie

Biegająca klasa. Skuteczność rozwijania umiejętności słuchania u osób uczących się języka angielskiego za pomocą podcastów w trakcie biegania

Umiejętność słuchania odgrywa kluczową rolę w procesie przyswajania języka. Jednakże ze względu na rozmaite obowiązki, dorośli miewają trudności ze znalezieniem czasu na jej rozwijanie. Niniejsze badanie podejmuje ten problem, zgłębiając kwestię połączenia nauki języka z bieganiem, stanowiącym popularną formę aktywności wśród dorosłych. Miało ono na celu zbadanie możliwości takiego połączenia oraz określenie wpływu jednoczesnego wykonywania dwóch czynności na umiejętność słuchania, poziom koncentracji oraz motywację. Obejmowało ono sześciotygodniowy program, w ramach którego szesnaścioro dorosłych

uczestników słuchało podcastów podczas biegania w wymiarze trzech razy w tygodniu. Dane ilościowe i jakościowe zebrano za pomocą testów wstępnych i końcowych, ankiet opartych na skali Likerta, obserwacji oraz wywiadów. Wyniki badania nie wykazały istotnego wpływu jednoczesnego wykonywania dwóch czynności na umiejętność słuchania. Uczestnicy bardzo pozytywnie ocenili jednak samą tego rodzaju aktywność. Odnotowano wysoki poziom motywacji oraz ponadprzeciętny poziom koncentracji, który dodatkowo wzrastał w miarę trwania badania. Uzyskane wyniki wskazują, że choć umiejętność słuchania nie ulega znaczącej poprawie, połączenie czynności biegania i słuchania może pozytywnie wpływać na stopień zaangażowania i motywacji u osób uczących się języka obcego. Zaleca się przeprowadzenie dalszych badań w oparciu o dłuższy okres interwencji, większą liczbę uczestników oraz bardziej zróżnicowane materiały do słuchania celem poznania długofalowych efektów stosowania powyższej metody.

Słowa kluczowe: umiejętność słuchania, dwuzadaniowość, podcasty, motywacja.

1. Introduction

Nowadays, an increasing number of adults come to classrooms to learn English, since modern work patterns as well as lifestyles require English language proficiency. Unlike young learners, who can devote most of their time to education, adults have other commitments such as families and work. Another activity which has been experiencing a boom in popularity recently is running. While in the recent past it was a sport mostly for athletes, today recreational running is a common trend (Tiessen-Raaphorst 2016). Finding time for learning a language and exercising is quite a challenge for those who have a busy schedule; therefore, one of the solutions can be to combine these two activities.

One of the ways to improve language skills simultaneously with running is listening to podcasts, which have proven to be an effective tool to improve language skills and increase motivation of learners (Drew 2017). There is a huge variety of applications and channels which offer podcasts to practise listening for learners from elementary to advanced level. These podcasts utilise natural language, varied speeds, and authentic expressions, thereby exposing learners to real-world language usage. Podcasts can facilitate educational processes for those teachers who would like to take their lessons outside the classrooms (Fardavoodi, Gojar & Bakhtiarvand 2020) since the development of various gadgets allows them to practise listening skills anywhere and anytime (Maulina et al. 2022), even while doing such outdoor activity as running.

This study was designed to measure the influence of the simultaneous activities (listening to podcasts and running) on listening skills, motivation, and ability to focus on the information during dual-task conditions. Investigating the compatibility of two different activities – language

learning through listening to podcasts and running – can suggest a possible avenue of learning language for those who lead active lifestyles and lack time to attend traditional classrooms.

2. Literature review

2.1. Importance and strategies of listening skills acquisition

Understanding grammar, vocabulary, and pronunciation is essential for language learning as it directly contributes to language mastery. However, when we talk about practical application of language, we usually identify four primary language skills in English language teaching (ELT): listening, speaking, reading, and writing (Burns & Siegel 2018) with listening being the most utilised skill in our communication (Artyushina, Sheypak & Golov 2017). Despite this, listening comprehension is still considered challenging for many EFL learners since students are often dependent on their teachers in practicing this skill. Listening is not taught as often as reading or grammar during many classes (Hadijah & Shalawati 2018), even though there is evidence that it fosters other language skills such as speaking (Alzamil 2021) and vocabulary acquisition (Zhang & Graham 2020; Feng & Webb 2019). Therefore, it is critical to explore ways to provide learners with the possibility to improve this crucial skill.

One of the problems for those who practise listening skills in English is the presence of a vast variety of accents. In fact, non-native English speakers comprise about three-quarters of those who can speak English. The use of authentic materials, which include videos, news broadcasts, radio programmes, and interviews, can expose learners to real-life language and offer various accents, speech rates, and colloquial expressions. Studies show that authentic materials help to improve listening skills (Maftuh et al. 2021; Citra Dewi 2018) as well as have a positive impact on vocabulary and other skills of learners (Polat & Eristi 2019). Also, authentic sources provide both cultural and language input and help to bridge the gap between classroom learning and real-world communication, especially in terms of understanding informal vocabulary and accents. One of the most common sources of authentic listening nowadays is podcasts. They have gained huge popularity among people of different age and are produced by people with various native and non-native accents and thus can be an efficient resource for those who want to develop listening skills.

2.2. Use of podcasts in ELT

A significant number of studies have proven that podcasts effectively improve listening skills in English for adult learners. Incorporating podcasts in teaching English has a positive impact on listening skills (Abu Rmelah & Pornwiriyakit 2023) as well as on vocabulary acquisition and speaking skills (Suseno 2024). Extensive listening to the diverse topics which are covered in podcasts exposes learners to a wide range of specific terms, idiomatic expressions, and colloquial language in practical contexts. This method enables students to comprehend subtle language nuances which can be overlooked in formal classrooms (Motamedynia & Nasrollahi Shahri 2022).

Besides having a positive impact on language acquisition, listening to podcasts can be used as a motivational tool for language learners (Mohammed & Khadawardi 2024; Sotlikova & Haerazi 2023). They are frequently well-received by students due to the flexibility of this resource; that is, students can engage with educational content at their convenience, free from time and space constraints (Mohammed & Khadawardi 2024). Research conducted by Indahsari (2020) reviewed over 150 research papers and concluded that podcasts not only enhance listening skills and allow teachers to incorporate technology into their lessons but also motivate students.

Being an effective tool for language learning, podcasts have other benefits. One of the most valued advantages is the flexibility of their use. Learners can stream or download them on different devices, making it possible to enjoy the content whenever and wherever it suits them (Nduwimana & Ndoricimpa 2023). This feature of podcasts makes it possible to combine listening with other activities, like doing housework or sports. A study conducted by Chin, Helman, & Chan (2017) revealed that a majority of students who utilised podcasts for extracurricular learning tended to listen to them while engaged in various activities, such as driving, performing household chores, or exercising. As a result, listening to podcasts offers a convenient way to multitask and encourages people to engage with the educational content while doing their daily activities (Khalid et al. 2023). This makes this technology a common choice for adults who informally learn a new language (Rosell-Aguilar 2015).

Overall, being an accessible and engaging source, podcasts can be used as an effective tool to improve language skills, especially listening comprehension, both inside and outside the classroom. Growing popularity among adult language learners indicates that podcasts can be a practical educational tool for this age group due to flexibility, content and levels they offer.

2.3. Adult education and motivation

Traditional formal education for language teachers usually focuses on pedagogy – methodologies which target young learners or adolescents. However, because of the growing globalisation and increasing demand for proficiency in English in different jobs, more and more adults seek opportunities to improve their language skills. As a result of the growing interest toward language learning among adults, educators have started to pay more attention to andragogy – educational methods to teach adults – in recent years. There is a solid rationale for this: adult learners have different needs than young students due to their lifestyle, requirements, and cognitive development (Note, De Backer & Donder 2020). Purwati et al. (2022) defines six main principles of andragogy: *self-concept, experience*, *readiness to learn*, *motivation*, *need to know* and *problem-centred learning.* These features mean that more mature students prefer to be more flexible in choosing when and what to study, and these choices often depend on their previous experiences. Also, they tend to choose more authentic materials which can be relevant to their context (Purwati et al. 2022). Traditional coursebooks often fail to engage adult learners, who prefer authentic, interactive materials like podcasts that allow multitasking. As a result, some adults chose podcasts for learning because of the possibility to combine listening with other activities, which has a positive impact on their learning and motivation. (Luna & Cullen 2011).

Motivation plays a crucial role in the process of acquiring a new language, as it greatly affects how engaged and persistent students are, as well as their overall success (Liu & Li 2024). Motivation is a complex concept that is shaped by a number of elements, including a person's character, interests, and their individual experiences. (Shan 2020). Research has indicated that motivation is a key predictor of language learning outcomes. For example, studies have found that adult learners who are intrinsically motivated to learn are more likely to achieve higher levels of language proficiency and show more consistency in their learning (Pace 2017). In addition, motivation can also play an important role in building learners' self-esteem and confidence, and, as a result, they are more likely to experience a sense of personal growth when they learn a new language (Łockiewicz 2019). This process aligns with principles of Self-Determination Theory (SDT) and is related to principles of adult education, or andragogy. This theory emphasises the importance of autonomy, competence, and relatedness for adult learners to foster their motivation (Lee & Wong 2022). When learners have control over their language goals, they sustain motivation, which boosts their confidence and outcomes. Using podcasts

with authentic content and autonomy may effectively enhance adult learners' motivation and engagement.

2.4. Dual-task performance and cognitive load

Performing two tasks at the same time can present certain challenges. Despite assertions by some individuals regarding their proficiency in multitasking, research evidence indicates that the cognitive capacity of the human brain is limited (Korbach, Brünken & Park 2017). Cognitive load theory explains the reasons behind performance deterioration when multitasking and identifies the factors that can affect the degree of this decline. As a result of limitations in cognitive capacity, there is an exchange between the different mental tasks, which means that we switch from one to another task, which leads to the need for a compromise (Epling et al. 2016). However, some studies indicate that performance deteriorates more when the two tasks require equivalent mental resources. Wickens' multiple-resource theory suggests that interference depends on the extent to which tasks overlap in terms of the type of processed information (Wickens 2002). For example, when a person is listening to podcasts, the brain is engaged in auditory processing and comprehension of the content, while running mostly engages the motor system and spatial awareness. This means that these tasks operate within different domains, and they can be performed simultaneously effectively, since there is less interference.

According to a framework for dual-task taxonomy, other factors which contribute to cognitive load in multitasking are the novelty and complexity of the concurrent activities (McIsaac, Lamberg & Muratori 2015; Bock, 2008). There is a significant difference between walking and speaking with someone, which can also be viewed as a multitasking performance, and sprinting and solving math problems at the same time. In the latter case the complexity of the tasks is higher, which leads to higher cognitive load and might result in failure to perform either one of the tasks or even both. Another factor which has an impact on distributions of attention in concurrent activities is how the focus is directed – whether to focus on the cognitive task or physical activity (Kelly, Janke & Shumway-Cook 2010).

2.5. Sport and learning

There is growing evidence of a positive impact of aerobic exercises on memory and cognitive processes (Thomas et al. 2016; Jespersen et al. 2023), especially in adults (Kao et al. 2022). The majority of studies focused on the long-term benefits of sport for learning capacity. However,

there is evidence that aerobic exercises have beneficial effects on the brain at the moment of doing sports. Studies have found that acute aerobic exercise can positively affect various brain structures and cognitive dimensions, including executive function, attention, memory, and learning capacity (Ferrer-Uris et al. 2022). Also, acute aerobic activities lead to the formation of new functional brain networks, which improve brain function and attention at the moment of exercise (Weng et al. 2017) and benefit parts of the brain which are responsible for learning, memory and attention (Basso & Suzuki 2017). Research shows that aerobic exercise, such as biking, can also enhance language learning by improving vocabulary memorisation and error detection, as demonstrated in studies by Liu et al. (2017) and Schmidt-Kassow et al. (2010, 2013). Learners who biked before and during language tasks performed better than those who remained seated. Sprint running also has a positive effect on memory and learning capacity immediately after sport sessions (Winter et al. 2007).

2.6. Running and learning

Simultaneous activities often compete for cognitive attention, which may lead to a decrease in the effectiveness of both tasks. The extent of this impact depends on the nature of the activities involved. Many sports, like swimming or skating, require significant cognitive involvement, while running is more automatic and routine (Walker 2016). As it was mentioned in chapter 2.4. – "Dual-task performance and cognitive load" – the impact of dual-task activity can be less disadvantageous when the activities are different, as they interfere with each other less by competing for the brain's focus (Epling, Russell & Helton 2015). This means that while running we can still have sufficient cognitive capacity to learn, which can provide a possibility of dual-task performance when it is done at a moderate pace and on even trails.

Several studies exploring the effects of combining running with learning have yielded mixed results. One study found that factors such as motivation, material relevance, and podcast length influenced information retention more significantly than the learning condition (whether sitting, walking, or jogging) (Coens et al. 2011). Blakely, Kemp, and Helton (2016) showed that counting accuracy decreased while running on uneven terrain compared to sitting but suggested that running on flat terrain or treadmills may demand less cognitive effort. Epling et al. (2016) reported that running slightly impairs verbal memory, though the impact was less significant than while doing more demanding tasks like climbing (Green & Helton 2011). Overall, running may mildly affect cognitive performance, depending on the task and environment.

The possibility of learning language concurrently with running is gaining more interest recently. Even though there has not been sufficient research into this possibility, there are a number of language teaching experts who offer programmes which combine these activities (Adept English 2024; Northbrook 2017)

2.7. Conclusion

Listening, being a crucial skill, still presents a challenge for many learners. There are a number of studies which suggest that using authentic material, for instance, podcasts, can improve listening comprehension (Maftuh et al. 2021; Citra Dewi 2018; Polat & Eristi 2019), and podcasts are often welcomed by adult learners due to the variety of content and flexibility of their use. Numerous studies indicate that participating in sports can enhance one's learning capacity. A big issue can be the capability of performing two tasks concurrently, as it can decrease the effectiveness of learning (van der Schuur et al. 2015). There is mixed evidence about the effectiveness of learning simultaneously with doing aerobic exercises, showing a negative impact of the concurrent activity on learning information (Coens et al. 2011), performing cognitive tasks like counting (Blakely, Kemp & Helton 2016) and memorising information (Epling et al. 2016), or a positive effect on learning outcomes (Liu et al. 2017; Schmidt-Kassow et al. 2013). Most studies which have explored the correlation between concurrent sport and learning have focused on either vocabulary acquisition or comprehension of content through listening in the first language. There is anecdotal evidence of the effectiveness of learning a foreign language through listening to podcasts while running. However, there was no significant research into the impact of listening to audios in a foreign language, and specifically English, on listening skills and focus level for adult learners simultaneously with running, and the outcomes of this activity for motivation. The findings of this study offer preliminary evidence that it is possible to enhance listening skills in the English language while running by listening to podcasts.

3. Research questions and objectives

The research was designed to answer the following questions:

1. What impact does listening to podcasts during running have on listening skills?
2. How do students perceive the experience of practicing extensive listening to podcasts while running in terms of focus and motivation?

4. Participants

The research participants were volunteers, chosen through purposive sampling, from the local community of amateur runners possessing English proficiency between A2 and B2 levels, as these levels enable comprehension of podcasts while necessitating additional language skill enhancement. Sixteen individuals, with a mean age of 37.8 years (eight males with a mean age of 38.6 years and eight females with a mean age of 36.9 years), successfully completed the entire running-listening series. All participants received consent documentation that outlined the details, conditions, and terms of participation prior to commencing the program. All participant names utilised henceforth are fictitious and have been altered in compliance with the study's ethical standards.

5. Research methodology

The present study employed a mixed-methods action research approach, incorporating both qualitative and quantitative data collection. The research used four tools of data collection: listening proficiency tests (pre-test and post-test), questionnaires with a Likert scale, observations and semi-structured interviews with the participants and an expert. Improvement of listening skills was recorded through listening tests. The data collected on personal perception, both qualitative and quantitative, enabled triangulation via the methods mentioned above (Likert scale, personal observations and interviews).

5.1. Materials

5.1.1. Podcasts and Google quizzes

The podcasts chosen for the research were from the series 6-minute English by BBC (downloaded from https://www.bbc.co.uk/learningenglish/english/features/6-minute-english). The podcasts come with worksheets which contain open-ended questions and multiple-choice questions. The participants had to answer three multiple-choice questions that were based on these worksheets after listening to them in Google Forms. The questions were meant to help participants focus on the content and activate schemata before listening. Overall, 19 Google quizzes were uploaded. The participants were also given a trial test similar to those they would listen to during the intervention. It had the same format as other podcasts used in the research,

and it allowed the participants to identify any potential technical issues, familiarise themselves with how Google quizzes work, and make sure that their headphones worked properly.

5.1.2. Pre-test and post-test

The pre-test and post-test each included three sections and a total of 24 multiple-choice questions. The initial four questions (part 1) were sourced from British Council LearnEnglish (https://learnenglish.britishcouncil.org/skills) and are aligned with level B1. The subsequent 10 questions were derived from Part 2 of IELTS listening tests, while the final 10 questions were taken from Part 3, encompassing proficiency levels from B1 to C1. They encompassed various forms of recordings, including conversations and speeches. To ensure reliability, the audio types for the pre-test and post-test were parallel.

5.2. Procedure

Following the collection of pre-test results, participants engaged in running three times weekly for a duration of six weeks, during which they listened to one podcast recording in each session. They could choose the time and place of the running-listening session, since listening was supposed to be integrated into their usual running routine. The podcasts and the questions were shared in Telegram channels with the participants at the beginning of each week (three audios and links to the quiz and questionnaire in Google Forms). To reduce cognitive load, the participants were advised to listen to the audios during warm-up running or cool-down running since at these training stages people run at a comfortable pace. Upon concluding the running session, they recorded their perceived focus level using a Likert scale questionnaire. Following six weeks of intervention, a post-test was administered, and a comparative analysis was performed between the initial and final scores. Also, five participants were observed (two of them were observed twice), and eleven were interviewed to collect qualitative data about their perception of the listening-running programme.

5.3. Data collection and analysis

5.3.1. Pre-test and post-test

The pre-test was taken by 19 participants (6 online and 13 in the classroom). However, during the first week, one of those participants reported that he could not continue his participation since listening to podcasts did not conform with his training programme due to marathon

preparation. During weeks 2 and 3, two other participants got traumas not connected with the research and had to stop their participation. As a result, 16 participants completed all 6 weeks of the programme (with at least 16 out of 18 podcasts done) and took the post-test. Three participants of those who did the pre-test in the classroom had to do the post-test online, as they were away from the country (see Table 1).

Table 1.

	Name	Pre-Test (number of correct answers and mode)	Correct answers % (pre-test)	Post-Test (number of correct answers and mode)	Correct answers % (post-test)	Improvement
1	Alica	10 (online)	41.6%	14 (online)	58.3%	+16.7%
2	Clara	14 (in the classroom)	58.3%	16 (online)	66.6%	+8.3%
3	David	3 (in the classroom)	12.5%	4 (in the classroom)	16.7%	+4.2%
4	George	21 (in the classroom)	87.5%	22 (in the classroom)	91.7%	+4.2%
5	Fiona	20 (in the classroom)	83.3%	23 (in the classroom)	95.8%	+12.5%
6	Hannah	15 (online)	62.5%	16 (online)	66.6%	+4.1%
7	Harry	14 (online)	58,3%	18 (online)	75%	+16.7%
8	Adam	13 (in the classroom)	54.2%	14 (in the classroom)	58.3%	+4.1%
9	Grace	13 (in the classroom)	54.2%	13 (in the classroom)	54.2%	0.00%
10	Frank	13 (online)	54.2%	13 (online)	54.2%	0.00%
11	Emma	12 (online)	50%	12 (online)	50%	0.00%
12	Diana	16 (in the classroom)	66.6%	14 (in the classroom)	58.3%	-8.3%
13	Ben	20 (in the classroom)	83.3%	16 (online)	66.6%	-16.7%
14	Eric	18 (in the classroom)	75%	11 (online)	45.8%	-29.2%
15	Bella	19 (online)	79.2%	16 (online)	66.6%	-12.6%
16	Carl	9 (in the classroom)	37.5%	7 (in the classroom)	29.2%	-8.3%
	Mean	14.375	59.9%	14.3125	59.6%	-0.3%

As can be seen from the table, there was no significant impact on the listening skills of the participants after a six-week intervention. The overall mean score for the pre-test was 59.9%, while the post-test mean score was slightly lower with 59.6%, which shows a slight drop in the group's average performance. However, the results significantly varied from participant to participant, with half of them (8 participants) showing improvements, 5 experiencing a decline and the other 3 having identical pre-test and post-test results.

5.3.2. Focus levels analysis

Following each running session, participants were required to respond to questions designed to assess their subjective perception of focus during a dual-task activity. The data was gathered

using a Likert scale via Google Forms, with participants required to complete it immediately after finishing their run and listening to a podcast. Responses were evaluated on a scale from 1 to 5 (see Table 2).

Table 2. *I could easily concentrate on the podcast while running*

Strongly agree	5
Agree	4
Neutral	3
Disagree	2
Strongly disagree	1

The line graph (Figure 1) presents the average focus level of the participants according to their answers in the Google Forms.

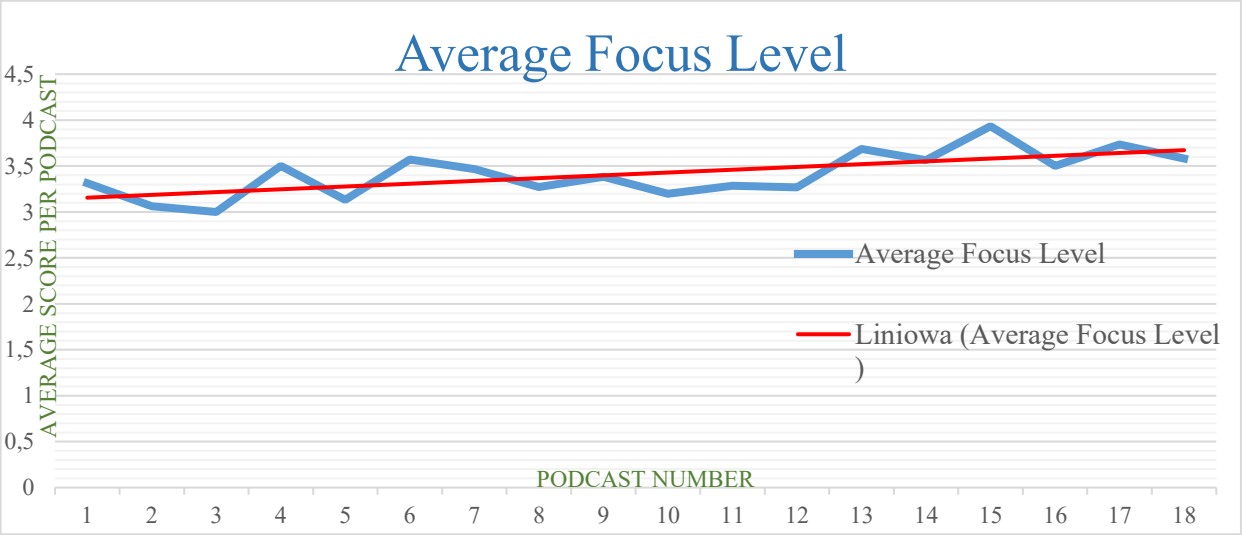

Figure 1. Average focus level of the participants

At the beginning of the programme (Podcast 1) the overall average score among all the participants was 3.31, which shows that on average the participants had a neutral to slightly positive perception of focus. However, during the whole period there was a slight improvement to 3.58 by Podcast 18. This result could indicate that overall, the participants could adapt to the dual-task activity of running and listening. However, the level of focus varied among participants.

5.3.3. Observations (as a tool of data collection)

Qualitative data was additionally gathered through the observation of participants during their engagement with podcasts and running activities. A checklist was created to organise data collection. To guarantee the data's reliability from the observations, participants in the study were monitored in their customary running locations: stadiums, urban streets, and city parks. This enabled to compare various conditions (locations, time of day, distractions) and draw conclusions regarding external factors that may influence the focus levels of the participants (Sample of a checklist - Appendix 1). Overall, five people were observed, with two of them being observed twice. According to the observations, the participants mostly could focus on the podcasts while running. However, several factors affected their concentration levels. These are the most significant factors:

Location – Motorways and busy sidewalks were less comfortable with noises around (people laughing, traffic noise). Parks or stadiums offer fewer distractions, allowing better concentration.

Time of day – Running during busy times (e.g., evening) may lead to more distractions, while early morning runs can provide a quieter environment.

Repeated listening – Listening to the podcast several times made it easier to focus on the content during the second and the third time, as familiarity with the content increases.

Individual differences – Participants demonstrated different levels of concentration in equal conditions.

5.3.4. Interviews with the participants

Eleven chosen participants were interviewed following weeks 5 and 6. The interviews were semi-structured and comprised open-ended questions, facilitating the flexibility to pose follow-up enquiries to identify and examine issues that may have arisen during the interview. The interviews were conducted in Russian or English, depending on the interviewee’s choice. The purpose of the individual interviews was to collect information that could serve as qualitative data for triangulation to ensure credibility of the research results (detailed summary of the interviews – Appendix 2).

Improvements in listening – Most participants (8 out of 11) felt they made progress in their listening skills. Others (3 out of 11) mentioned that the duration of the programme was not sufficient to experience any significant progress.

Focus during running and listening – Participants had mixed experiences regarding their ability to focus while running and listening to podcasts with 2 saying it was easy, 4 reporting that it was challenging, and 5 asserting that focussing on the podcasts was feasible.

Liked the participation or not – Almost all participants expressed positive feelings about their participation in the experiment. 10 participants said that they enjoyed the experience, mentioning different reasons like interesting content, improvement in listening and feeling that there was a double use.

Wants to continue – All participants expressed a desire to continue listening to podcasts while running with some adjustments to the programme (longer podcasts, a different level).

Recommendations – Participants provided several suggestions to improve the experience. The most common recommendation was to include longer podcasts. It was mentioned by 6 interviewees.

5.3.4.1 Additional patterns

There were several repeated patterns which were revealed during the analysis of the interview:

Familiarity with the content – Participants found it easier to focus on podcasts when the topics were familiar (mentioned by 6 participants).

Preference for interesting content – If the topics of the podcasts offered some interesting information and the participants found that they could learn something new, the focus level was better (mentioned by 5 participants).

Impact of intensity of the running programme – The intensity of running affected participants' ability to concentrate on the podcasts. When they had more demanding training, their ability to focus declined (mentioned by 4 participants).

Repetitive listening – Some participants mentioned that repeated listening to the same podcast made it easier to focus and understand the content. They also felt that it was more beneficial for their listening skills if they listened to the podcast more than once (mentioned by 5 participants)

Dual-benefit of the activity – Three participants mentioned that motivation to consistently listen and run was due to the dual benefit of the activity.

5.3.5. Interview with a sports doctor from Athletics Federation of Uzbekistan

The interview with the sports doctor (SD) was conducted to obtain an expert view of the dual-task activity regarding the impact on cognition, focus and motivation while combining running and language learning. The key insights from the doctor indicate that running positively influences cognitive functions by increasing oxygen flow to the brain. According to the doctor, this enhances memory, coordination, and information processing abilities. The expert emphasised that running creates and strengthens neural connections and can even reduce risks of diseases like dementia and Alzheimer's.

The doctor supported the idea of combining running with cognitive tasks, such as listening to foreign language podcasts, and confirmed that moderate intensity workouts can be more appropriate for a dual-condition task. She acknowledged that high-intensity exercise may lead to a reduction in focus. She also mentioned that environmental factors should be considered, special running tracks or park lanes are preferable for better concentration.

The expert strongly recommended this approach of integrating language learning and running and highlighted that this can bring benefits beyond time-saving and language learning and can improve mood and motivation.

The major insights from the interview confirm that combining running and listening to podcasts can be beneficial for both learning and motivation.

5.3.6. Summary of the findings

5.3.6.1. Research question 1. What impact does listening to podcasts during running have on listening skills?

Even though the results of the pre-test and post-test can be considered as equivocal due to variations among participants and average marginal decline in the test results (-0,3%), the positive results among half of the participants (8 out of 16) and their self-reported improvements suggest that listening to podcasts simultaneously with running can have a positive impact on listening skills. There is also a correlation between the perception of improved listening skills (revealed during the interviews) and test results (see Table 3).

Table 3. A correlation between the perception of improved listening skills

Name	**Test gain %**	**Perceived progress**
Clara	+8.3	Yes
Alica	+16.7	Yes
Hannah	+4.2	Yes
Harry	+16.7	Yes
Diana	-8.3	Yes
Ben	-16.7	No
Carl	-8.3	No
Frank	0.00	No
Emma	0.00	Yes
Bella	-12.6	Yes
Eric	-29.2	Yes

As can be seen from Table 3, participants' self-reported progress level was consistent with their test results, with 5 being positive about their progress and having gained in the post-test and 3 reporting feeling no progress and showing no gains in post-test scores. Three others reported improved listening skills, but their test results did not show any progress. This means the perceived progress of 8 participants out of 11 interviewed was consistent with their actual progress.

5.3.6.2. Research question 2. How do students perceive the experience of practicing listening to podcasts while running in terms of focus and motivation?

The **focus** level was measured through Likert surveys, interviews and observations.
The self-reported focus level on the Likert scale was 3.31, indicating it was above average, falling between manageable and easy at the start of the intervention, and increased to 3.58 by the end of the 6-week dual-task activity period. These results are consistent with the participants' self-reported ability to concentrate during the interviews. 7 out of 11 interviewed reported that it was easy or manageable; 4 reported that it was challenging.

The participants also mentioned that they listened to the podcasts two or three times, and it was easier to concentrate on and perceive them since at the beginning of the dual-task activity they had to adjust to them. Also, while listening the second time, the content was already familiar, which means it required less effort to understand it. This was also confirmed by the

data obtained during the observations. Also, the observations confirmed that even though the participants experienced certain distractions, they could focus on the podcasts. In addition, during the interview, the expert stated that running improves oxygen flow, which leads to improved cognitive function and, therefore, focus. According to her words, this has both long-term benefits and also can improve cognitive function at the moment of doing sports. As a result, all the data indicates that the focus level increased during the activity when the participants listened to the podcasts the second or third time, as well as during all six weeks of the programme.

The study found that 10 of 11 participants liked the program and all were **motivated** to continue with some changes. It was also noted by 6 participants that it was rewarding to see double benefit from this activity – maintaining a healthy lifestyle and developing English listening skills – which made their training more consistent. Another factor which had a positive impact on motivation is not only improving English but also gaining new knowledge along with physical activity. One more interesting fact which was mentioned by the participants is that this programme motivated them to watch or listen to information in English outside the running-listening activity.

The sports doctor also highlighted the positive impact on motivation. As she mentioned, running has a positive impact on mood, and if this activity is coupled with a cognitive task, it can augment the effect.

Overall, there were several factors mentioned that triggered a positive impact on motivation: double benefit of the activity, perceived improvement of language skills, learning something new apart from English and possible positive effect of running on participants' mood.

6. Discussion

This research addressed a gap in the previous studies by examining whether running could be combined with listening to podcasts in a foreign language by adult learners, what impact this activity had on listening skills, and how adults perceive this activity in terms of focus and motivation. Previous studies have established that aerobic exercise can improve memory, cognitive skills, vocabulary retention, and overall mental acuteness (Thomas et al. 2016; Jespersen et al. 2023; Liu et al. 2017; Schmidt-Kassow et al. 2013; Kao et al. 2022). In addition, there is sufficient evidence that listening to podcasts helps to improve listening skills and promote learners' motivation (Yoestara & Putri 2019). However, there was scarce empirical evidence which focused on the impact of listening to English podcasts while running on listening

skills, and the perception of this activity by learners in terms of motivation and concentration level. This research addressed this gap and indicated that while the impact on listening skills can be considered ambiguous, the findings show a highly positive response in terms of motivation to the dual-task activity (listening to podcasts and running concurrently) by adult learners. Also, the data on focus level indicates that focus level depended on external factors but could be sustained on a sufficient level, and it increased over time due to adaptation to dual-task activity.

6.1. Impact on listening skills

Perceived improvement in listening skills was on average more positive than the test results. The reason could be inconsistent testing conditions (online vs. classroom): the most significant drop was seen in the results of the participants whose mode of pre-test was different from post-test. Also, even though the tests were taken from a credible source and could be considered as parallel in their difficulty level, there still can be variations in the complexity of the pre-test and post-test which could have influenced the test results.

There are other factors that could also have affected the test results and progress level:

Short intervention period: six weeks may be insufficient for significant listening skill development, especially when practice is done only three times a week in dual-task conditions.

Podcast length and complexity: the "6-Minute English" podcasts may not have been optimal for all learners in terms of complexity and length. The range of proficiency level of the participants varied from A2 to B2, and this could have affected their gains in listening skills.

Environmental conditions: as reported in participant interviews, environmental factors such as noise and location affected focus levels during the listening-running sessions. Choosing consistently less crowded locations and times of the day could have decreased cognitive load and they could have focused on the content better.

6.2. Focus level

The focus level was slightly above average, which aligns with the cognitive load theory. Even though the participants' cognitive capacity was divided between tasks due to cognitive load during dual-tasking (Mancone et al. 2024; Korbach, Brünken & Park 2017), they still had enough cognitive capacity to understand the information since the tasks they performed had

different nature (physical and cognitive) and engaged different domains of the brain (Wickens 2002). The participants reported better focus when they listened to the recording the second or the third time. This also complies with the Cognitive Load Theory, as the participants were already familiar with the content and adapted to the running activity since engagement with the information which is familiar in accustomed settings requires less cognitive effort. Another factor that contributed to better focus levels is the stimulation of brain activity through increased oxygen flow, which promotes brain plasticity and enhances focus and learning (Austin & Loprinzi 2019). The sports doctor also mentioned this factor during the interview.

In addition, improved focus level over the 6-week period aligns with the theory of motor-cognitive dual-task automaticity. According to this theory, repeated practice leads to chronic dual-task adaptation, which means that the activity becomes less conscious and more automated (Moreira et al. 2021). This type of adaptation is often observed in professional athletes, for example, basketball or tennis players who have to perform motor tasks (dribbling or returning balls) and cognitive tasks (making strategic decisions) concurrently on a regular basis (Schaefer and Scornaienchi 2019).

6.3. Motivation

High levels of motivation among participants align with previous research, which indicates that learners find podcasts motivating as a tool to improve listening skills (Indahsari 2020; Mohammed & Khadawardi 2024).

In addition, increased motivation complies with the theoretical framework of Self-Determination Theory (SDT) and principles of adult education (andragogy). The interesting and informative content of the podcasts was noted by the participants as a motivational factor; this means the participants found the content relevant to their context and experience. Furthermore, the participants enjoyed a significant degree of independence during the activity, as they were able to select the time, location, and method for listening to the podcasts. This aligns with the concept of autonomy. In addition, Self-Determination Theory (SDT) indicates that learners tend to show stronger motivation and consistency in continuing the activity when the goals of learning are more internal, which means the learners understand that this activity is useful for them (Rovai et al. 2020). As was mentioned by learners, they viewed the mix of exercise and auditory input as an effective use of their time, which consequently led to a high level of motivation to proceed with the activity. Another factor is the opportunity to combine their education with an activity they consider enjoyable, such as a hobby. This technique, which is

often referred to as "piggybacking," can help create a new pleasant habit (in this case, listening to podcasts in a foreign language) if it is stacked with another enjoyable activity, which is already a routine (Wood & Neal 2016). The whole process of both running and learning, which could be seen as monotonous if done separately, was perceived as a more engaging combination, and this also could make the learning experience more pleasurable and, as a result, develop motivation.

7. Conclusion

7.1. Implications

The findings of this research highlight that integrating language learning and running can foster motivation and focus adaptability. This technique has practical implications for designing education programmes for learners who are looking for engaging ways to learn a new language and maintain an active lifestyle. This method also can be beneficial for professional athletes, who often travel abroad and experience language barriers but have intensive training routines which complicate finding time to learn a language. In addition, this approach to language learning can be interesting for companies which develop sports applications and seek ways to attract more people. Offering a language learning programme integrated into applications such as Strava or Run Nike Club (RNC) can attract new subscribers and bring more consistency to training due to the double usefulness of the training programme.

7.2. Recommendations for further research

To have a better understanding of the compatibility of running and practising listening skills, further research with more diverse levels of language proficiency is recommended. For example, future research could explore how the integration of running and podcast listening affects beginners, intermediate learners, and advanced speakers. Tailoring the activity to individual proficiency levels may optimise its effectiveness. Additionally, it is recommended to extend the research duration and incorporate a wider variety and longer podcasts, as suggested by the participants. This would allow us to observe the long-term impact on motivation, focus, and language learning outcomes. Also, future studies should involve a larger number of participants to ensure the better generalisability of the research.

7.3. Limitations

The study has a few limitations. The small sample size of 16 participants makes it difficult to generalise the results to a broader population. There's also a risk of selection bias since the individuals who were interested in podcasts or running were more motivated to volunteer to participate. This potentially could have influenced the results. In addition, the pre-test and post-test did not consider other influences on participant progress, like any extra podcast listening the participants may have done during the study. Furthermore, the six-week period of listening and running might be too short to observe any considerable impact of listening to podcasts on listening skills, as significant improvements in listening skills can require more time.

7.4. Ethical considerations

The participants were instructed about the procedure of the research in detail, and all the ethical considerations were outlined. Before the study, participants were told what it would entail and consented to participate. Participants' names were kept confidential by using other names instead. The participants were informed that taking part is voluntary, with no penalty for stopping or refusing certain data gathering at any stage of the research. The interviews were conducted with respect to the participants. The data was not shared with any third party unless there was prior agreement and written consent from the participants.

Appendix 1

Sample of an Observation Checklist

General Information

Date: 27 October 2024 Time: 8:00

Location: Botanic Garden Podcast no. 18

Participant Information

Participant ID: Harry

Age: 35 Gender: Male

Physical Comfort

- ☑ Appears comfortable
- ☐ Shows signs of discomfort (e.g., frowning or changing pace)
- ☐ Frequent stops to adjust gear (e.g., adjusting headphones)
- ☐ Visible fatigue

Focus and Engagement

- ☑ Appears focused
- ☐ Frequently distracted (e.g., looking around, checking phone, speaking with others)
- ☐ Occasional distraction
- ☐ Highly distracted

Interaction with Content

- ☐ Nods or shows signs of agreement
- ☐ Displays curiosity (e.g., raised eyebrows, expressions)
- ☑ No visible reaction
- ☐ Looks confused or puzzled

Active Listening Indicators

- ☐ Mimics words or phrases
- ☐ Mouths the words
- ☐ Repeats sentences
- ☑ No verbal repetition

Environmental Distractions

- ☑ No distractions noted
- ☐ Minor distractions (e.g., occasional noise)
- ☐ Moderate distractions (e.g., people passing by)
- ☐ Major distractions (e.g., loud noises, interruptions)

General Attitude

- ☐ Positive and enthusiastic
- ☑ Neutral
- ☐ Indifferent or unengaged
- ☐ Negative or resistant

Additional Notes

The participant seemed to be very focused on the podcast from the first minutes. The pace of running was moderately fast at 6.30 min per kilometre. The terrain in the park is very comfortable for running and there were no distractions. The participant listened to the podcast at the beginning of the run. He looked at the questions first and then started the audio. As he reported, he listened to the podcast three times.

Observer's Summary

From all the locations, this park (Botanic Garden), seems to be the most comfortable location for running and listening at the same time. The lanes were wide and there are many trees around, which means you don't see other runners or any other people. As a result, the runner was not distracted at all. Also, he generally seemed to be able to focus on the audio. According to the observations, he seemed to feel comfortable listening and running at the same time.

Appendix 2

The table below presents key information according to the five categories: **"Improvements in Listening"**, **"Focus during Running and Listening"**, **"Liked the Participation or Not"**, **"Wants to Continue"**, **"Recommendations"**

Participant	Improvements in Listening	Focus during Running and Listening	Liked the Participation or Not	Wants to Continue	Recommendations
Ben	**No**. Believed podcasts should be more challenging to improve skills.	**Relatively easy** but mentioned that tiredness, lack of sleep and external concerns (e.g., work issues) could affect focus.	**Yes**. Found it interesting and enjoyed being part of the experiment.	**Yes.** with longer podcasts.	Suggested **longer podcasts** (approx. 20 minutes) with clearer recordings and interesting topics.
Carl	**Probably no.** Felt the time was too short to see significant progress.	**Hard** due to technical issues with devices (e.g., rewinding podcasts) and external noise (e.g., cars, people) but it became easier over the period.	**Yes**. Overall, found the experience useful.	**Yes**. Hoped to continue if time allowed.	Recommended to find **more comfortable way to read and answer questions** to the podcasts (e.g. integrate podcasts into Telegram, not to use Google forms)
Harry	**Yes,** even though the period of the participation was short.	**Manageable** but found it **hard** to concentrate when crossing streets, in crowded areas, or during intense training sessions when focusing on his body and pace.	**Yes**. Enjoyed learning new things and found the podcasts engaging and informative.	**Yes**. Valued the dual benefit of exercising and learning at the same time.	Suggested **quieter environments** for running to reduce distractions and improve focus.

Participant	Improvements in Listening	Focus during Running and Listening	Liked the Participation or Not	Wants to Continue	Recommendations
Emma	**Yes**. Believed the method was effective for improving listening skills.	**Hard** to concentrate due to loud music which sometimes was louder than the podcast (ran on a treadmill in a gym)	**Yes**. Found the experience positive and liked the structure of the program.	**Yes**. Motivated to continue improving English outside the running programme.	Recommended including **simpler** and **more diverse** topics.
Alice	**Probably yes.** It became easier to understand songs in English,	**Hard** at the beginning but **easier** after 2-3 podcasts.	**Yes**. Felt very positive and found it very interesting.	**Yes**. Suggested continuing the program for a longer duration.	Recommended **longer podcasts** and extending the program duration to see more significant results.
Bella	**Yes**. Found the method effective.	**Easy** if the podcast topics were familiar. Otherwise, was distracted external (traffic) or internal factors (pain in a leg).	**Yes**. Enjoyed the experience but experienced challenges focusing during intense runs.	**Yes**. Valued the dual benefit of exercising and learning at the same time.	Recommended **longer, about 10 mins,** podcasts with familiar and engaging topics for better focus.
Hannah	**Probably yes.** Believed the method could be effective for improving listening skills but with fewer distractions.	**Hard** to focus in crowded areas with walking people and cyclists.	**Not sure.** There are too many factors which affect the experience: noises around, season, content of the podcast, type of training.	**Yes**. But with some adjustments.	Suggested podcasts with **clear pronunciation** and engaging content.
Diana	**Yes**. Found the method effective despite occasional distractions.	**Manageable** but noted noisy or crowded areas in the evening as distractions.	**Yes**. Enjoyed the experience, content was interesting, learned new vocabulary.	**Yes**. Motivated to continue with short, simple podcasts and more flexible schedule.	Recommended keeping podcasts short (**6-minute was sufficient, max. 10 mins**).

Participant	Improvements in Listening	Focus during Running and Listening	Liked the Participation or Not	Wants to Continue	Recommendations
Clara	**Yes**. Believed the method was effective. Listening became easier over the period. *"Compared to the first time I listened to these recordings, I now catch some things without much effort."*	**Manageable** but tiredness and outside noises (cars, construction noises) sometimes affected focus. **Easier** to focus **on early mornings** due to less noise.	**Yes**. Enjoyed the experience and felt it made her running routine more disciplined.	**Yes**. It gives feeling of double usefulness of the activity. Motivated to continue with slightly longer podcasts.	Recommended **longer** but **simpler podcasts** (10-15 minutes).
Eric	**Yes**. Believed listening skills and vocabulary improved over time.	**Manageable** but sometimes external noise (e.g., cars, loud environments) were distracting. Used only one earphone for safety.	**Yes**. Appreciated the opportunity to improve vocabulary and listening skills.	**Yes**. Motivated to continue improving English using this method.	Recommended **longer podcasts** approx.. 10-15 mins.
Frank	**Probably not**. Felt that his weak grammar and vocabulary prevented from bigger progress.	**Manageable** but was distracted by noises, cars or uneven roads. Felt more comfortable running on a treadmill.	**Yes**. Enjoyed the interesting topics and engaging content.	**Yes**. Motivated to continue with similar engaging content.	Recommended **longer podcasts**, 10-15 mins.

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