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**An Exploration of Cognitive Benefits of EFL Learning in
a Monolingual Jordanian Context**

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ABSTRACT

Objective: This study examined the cognitive benefits of English language learning in Jordan's predominantly monolingual context, an area that remains largely unexplored. **Methodology:** A methodically crafted, literature-based survey was administered to a representative sample of 365 Jordanians, selected through random sampling, utilizing a quantitative research design. **Findings:** The analysis underlined several pronounced cognitive benefits of English language mastery. Key enhancements spanned domains such as attentional control, memory retention, overall health, and creative thinking. Furthermore, the linguistic journey often translated into socio-cultural advantages, facilitating richer intercultural exchanges, fostering deeper friendships, and broadening global perspectives. Interestingly, urban residency and higher educational attainment emerged as influential variables, amplifying these benefits. **Recommendations:** This study provides essential insights for educators and policymakers to enhance these advantages in monolingual societies.

Keywords: Cognitive Benefits; English; Jordanian EFL Learners; Language Learning; Monolingualism.

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استكشاف الفوائد المعرفية لتعلم اللغة الإنجليزية كلغة أجنبية في سياق أردني أحادي اللغة

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ملخص

الهدف: في المجتمعات أحادية اللغة مثل الأردن، لم تحظى الآثار المعرفية المترتبة على تعلم اللغة الأجنبية باهتمام كبير من قبل الباحثين. لذلك هدفت هذه الدراسة إلى تحديد وتوضيح الفوائد المعرفية لتعلم اللغة الإنجليزية كلغة أجنبية في هذا السياق. **المنهج:** تم توزيع استبيان مبني من الدراسات السابقة على عينة تمثيلية من 365 أردنيًا، تم اختيارهم من خلال العينة العشوائية، باستخدام المنهج الكمي. **النتائج:** أظهر التحليل الإحصائي عدة فوائد معرفية واضحة مرتبطة بإتقان اللغة الإنجليزية. تضمنت الفوائد المعرفية عدة مجالات رئيسية مثل التحكم في الانتباه، وتقوية الذاكرة، والصحة العامة، والتفكير الإبداعي. علاوة على ذلك، غالبًا ما تُترجم الرحلة اللغوية إلى مزايا اجتماعية وثقافية، مما يسهل في إثراء التبادل الثقافي، وتعزيز الصداقات، وتوسيع التباين في وجهات النظر. كما بينت نتائج الدراسة أن الإقامة في المدينة والحصول على مستوى تعليمي أعلى يؤثر إيجابياً على تعزيز الفوائد المعرفية. **التوصيات:** تقدم هذه الدراسة رؤى أساسية للمعلمين وصانعي السياسات لتعزيز هذه الفوائد المعرفية في المجتمعات أحادية اللغة.

الكلمات المفتاحية: الفوائد المعرفية؛ اللغة الإنجليزية؛ متعلمو اللغة الإنجليزية كلغة أجنبية في الأردن؛ تعلم اللغة؛ أحادية اللغة.

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Introduction

Pursuing foreign language learning extends beyond linguistic competence, influencing individual and societal trajectories. While emphasized across educational settings, from classrooms to colleges, such learning is instrumental in deepening cultural understanding and improving communication skills, thereby offering learners a competitive edge in diverse fields (Block & Cameron, 2002; Jaatinen, 2007; Narushima et al., 2018; Oteir & Al-Otaibi, 2019).

Remarkably, the cognitive dimensions of learning a foreign language have garnered significant attention. Research on bilingualism and multilingualism has revealed various cognitive benefits. However, exploring these benefits in predominantly monolingual societies like Jordan is less understood. This gap is notable, considering the range of cognitive enhancements associated with language learning.

In Jordan, despite the early introduction of English in the educational system (Bani-Khaled, 2013), its widespread use is limited mainly to urban areas, notably Amman. While subjects like Mathematics and Science incorporate English, other disciplines remain rooted in Arabic. This linguistic dichotomy limits the full cognitive benefits of foreign language study. Particularly in Jordan's predominantly monolingual environment, there is a likelihood that learners may not achieve full English proficiency (Al-khresheh, 2023).

Given this context, the primary aim of this study is to explore the cognitive benefits of English language learning in monolingual settings, mainly focusing on young Jordanian learners. This research seeks to understand better the cognitive advantages associated with English language acquisition in a predominantly Arabic-speaking society. Furthermore, it investigates the motivations behind young Jordanians' pursuit of English language learning. The following research questions guide this exploration:

1. What cognitive benefits are associated with learning English as a Foreign Language (EFL) within Jordan's predominantly Arabic-speaking community?

2. Do demographic factors such as age, gender, location, and educational level influence the cognitive benefits of EFL learning within Jordan's predominantly Arabic-speaking community?

Literature Review

In the vast domain of academic research, learning stands out as a topic of profound interest, with a multitude of studies dedicated to unravelling its intricate nature (Menard-Warwick, 2005; Block, 2007; Swain et al., 2010; De Costa, 2010; Dweck et al., 1995; Goldie, 2016; Sozudogru et al., 2019; Ghonchepour & Moghaddam, 2018). Given the depth and breadth of discussions around it, arriving at a universally accepted definition of learning is inherently challenging. At its most fundamental level, learning is often seen as the continuous journey of assimilating information through diverse experiences, which enriches and modifies an individual's abilities, knowledge, values, and beliefs.

Mondahl and Razmerita (2014) have added nuance to this understanding by describing learning as a lifelong progression where individuals continually refine their knowledge acquisition techniques. Many variables, including but not limited to age, environmental context, health status, and individual motivation, play pivotal roles in shaping this continuous learning trajectory (Burlakova & Gubanova, 2019; Harrison & Thomas, 2009). The dimension of experiential learning further accentuates this, suggesting that our interactions, especially those centred around problem-solving or acquiring new knowledge, are central to the learning process.

Historically, the academic landscape has witnessed the emergence of numerous theories attempting to decode the mechanics of how learners refine their abilities. The constructivist learning theory, for instance, is anchored in the belief that learners actively construct knowledge rather than passively receive it (Pritchard & Woollard, 2010; Bada, 2015). In stark contrast, the behavioural learning theory posits that learning is intricately intertwined with observable behaviours, offering a perspective that intersects with the broader domain of psychology (Staats, 1996). Other significant contributions to learning theories include Dewey's (1986)

experiential learning theory and Mezirow's transformational learning model, which offer unique insights into the learner's engagement with information (Clark & Wilson, 1991). These theories collectively suggest a dynamic interplay between the learner's internal cognitive processes and the external environment, influencing how language is acquired and applied. The discourse is further enriched by frameworks like humanism, connectivism, experiential learning, and multiple intelligences, each bringing unique perspectives to the table and highlighting the diverse ways through which language learning can shape and be shaped by cognitive development (McKinney & Norton, 2008; Norton & Toohey, 2001; Riener & Willingham, 2010; Yeager & Dweck, 2012). This multifaceted theoretical backdrop sets the stage for exploring the cognitive benefits of EFL learning, particularly in monolingual environments like Jordan, where language learning dynamics might exhibit distinct characteristics.

In this vast array of theoretical constructs, cognitive psychology theory stands out for its pertinence to the present study. It offers a deep dive into information acquisition, retention, and retrieval processes, mapping the labyrinthine pathways through which the brain processes information (Çeliköz et al., 2019; Norton, 2010; Ricento, 2005). This theory's relevance lies in its potential to elucidate the cognitive mechanisms underpinning language learning and acquisition, particularly relevant in learning English as a Foreign Language. This perspective is bolstered by cognitive developmental theory, which envisions learners as 'information processors.' As detailed by Prasetyo (2020), these processors engage complex cognitive mechanisms to internalize and retain information. Understanding these processes is crucial in grasping how language learning impacts cognitive development, especially in EFL contexts. This narrative is further enriched by Piaget's (1971) exploration of schemas and the dynamic interplay of 'equilibration' in the learning process (Inhelder & Zwingmann, 1976). Piaget's theory offers valuable insights into how learning a new language can restructure cognitive schemas, leading to advanced cognitive capabilities.

Building on this foundation, scholars like King (2009) and De Costa (2010) have delved into the delicate balance between external stimuli and

internal cognitive processes, offering a more comprehensive picture of the learning journey. Their work underscores the intricate relationship between environmental factors and the learner's cognitive responses, particularly pertinent in second or foreign language learning. These cognitive processes span a vast spectrum, from linguistic reasoning and critical analysis to more tangible abilities like reading and memorization (Fosnot & Perry, 1996; Morgan & Clarke, 2011). This breadth of cognitive engagement demonstrates the multifaceted impact of language learning, extending beyond basic language skills to encompass broader cognitive development. As Hilchey and Klein (2011) suggest, these cognitive abilities, though innate, are not static. They can be honed and expanded, primarily through experiences like learning new languages. This adaptability is especially significant in EFL contexts, where language learning can act as a catalyst for cognitive growth and flexibility, aligning with the focus of our study on the cognitive benefits of EFL learning in Jordan.

This foundation will unquestionably enrich our exploration into the interrelationship between cognition and English language learning, particularly in a monolingual context such as Jordan. The emphasis on cognitive psychology and language theories provides a robust framework for investigating how English language learning affects cognitive processes in a society where Arabic is predominantly spoken. Based on this premise, it is essential to recognize language's profound influence on our daily lives. Language, in its various forms, is the foundation of our communication, allowing us to express our thoughts, aspirations, and questions (Klimova, 2018). Language nuances, including body language and tone, convey various emotions. This communicative power of language, particularly in learning English as a foreign language, plays a significant role in cognitive development and cultural understanding. In the current era of global interconnectedness, proficiency in multiple languages is not merely an asset but a necessity, as it fosters the formation of profound, lifelong bonds, as evidenced by the diverse linguistic tapestries we have woven (Klimova et al., 2021). Thus, our study aims to

explore how learning English as a foreign language in Jordan contributes to cognitive enhancement and broadens intercultural comprehension.

Learning a new language has long piqued academic interest, with numerous studies examining its multifaceted benefits. The primary objectives of learning a foreign language are cognitive improvement and enhanced communication. Whether rooted in traditional classroom settings or supported by computer-based platforms, this learning process is perceived as dynamic and engaging, particularly when the environment emphasises communication and interaction (Bozavli, 2021; Candlin & Mercer, 2001). Specific research echoes this sentiment by highlighting the prospective occupational benefits of foreign language proficiency (Mițariu, 2019; Martyushev et al., 2021).

The cognitive benefits of acquiring a foreign language are particularly pronounced in monolingual contexts. Such endeavours cultivate more positive attitudes, lessen prejudice towards diverse communities, and encourage an open mind and an appreciation for diverse cultural tapestries (Pikhart & Klimova, 2020). Foreign language learning is associated with enhanced problem-solving abilities, refined abstract thinking, analytical skills, and memory and listening abilities (Martyushev et al., 2021). Together with business acumen, these abilities increase an individual's market value. Furthermore, foreign language proficiency paves the way for enriching international travel experiences, fosters a deeper understanding of one's culture, broadens worldviews, and catalyses creativity (Bubbico et al., 2019; Fiske et al., 2009; Kormos & Csizer, 2008; Kroll et al., 2005; Weziak-Białowolska, 2016; Wong et al., 2019; Wui, 2019).

Age-related investigations provide additional levels of comprehension. Imlach et al. (2017) and Pikhart and Klimova (2020) prove that acquiring a foreign language can improve older students' subjective happiness and cognitive abilities. Klimova et al. (2021) hypothesised that older individuals have an advantage in language learning if they are physically and mentally healthy. Foreign language learning significantly improves older individuals' cognitive, social, and affective well-being (Phenniger & Polz, 2018). Kormos and Csizer (2008) presented

a nuanced viewpoint, emphasising that older individuals' motivational drivers to acquire a foreign language frequently diverge from those of their younger counterparts due to their aspirations to become proficient language users. Swedish studies have illuminated the interplay between brain maturation and the ease of language learning in the neurocognitive domain, indicating that language learning has a tangible neural impact (Mackey & Oliver, 2002; Pot et al., 2018).

However, there are numerous obstacles, particularly in monolingual environments where adult learners struggle with the complexities of second language assimilation (Kroll et al., 2005). Pioneering research illuminates the interference of the native language in the foreign language learning trajectory, revealing that both languages remain concurrently active in the cognitive processes of a learner, regardless of whether they are speaking, reading, or listening (Dijkstra & Van Heuven, 2002; Marian & Spivey, 2003; Jabali, 2018 & 2022). Notably, a substantial portion of existing research has been devoted to elucidating the cognitive implications of language proficiency, primarily in multilingual contexts (Wui, 2019).

In Jordan, the exploration of EFL encompasses a broad spectrum, including teaching methodologies, curriculum development, and various challenges encountered in the learning process. Studies, such as that conducted by Hamdan and Hatab (2009), Bani-Khaled (2013) and Al-khreshah (2021), have been instrumental in illuminating the integration of English within the Jordanian educational framework. This body of work underscores significant regional disparities in English language education throughout the country, particularly between urban and rural settings. Further, scholarly inquiry into the efficacy of diverse teaching methods and curriculum designs aims to boost English language proficiency among Jordanian students. Moreover, the contributions of Albashtawi and Al Bataineh (2020) and Al-Sharah et al. (2021) stand out in this domain, offering critical analyses of various pedagogical strategies and their influence on learners' language progression. The challenges confronting Jordanian EFL learners have been a focal point of academic investigation, encompassing everything from navigating linguistic complexities to

addressing cultural nuances impacting language learning (Huwari, 2021). In Jordan's predominantly Arabic-speaking environment, the potential cognitive implications of a bilingual educational approach have sparked scholarly interest.

Despite this extensive exploration, one critical aspect that remains notably under-researched in the Jordanian context is the cognitive benefits of EFL learning. While the studies above provide valuable insights into English language education's practical and pedagogical aspects, the specific cognitive advantages that accrue to Jordanian EFL learners have not been thoroughly investigated. This gap in research is particularly significant given the growing recognition of the global cognitive impact of language learning. Thus, the present study aims to fill this void by systematically examining the cognitive benefits of EFL learning in a predominantly Arabic-speaking environment like Jordan, contributing a new dimension to the existing body of knowledge in EFL education.

Method

This study aims to discover the most prevailing cognitive benefits of learning EFL in the Jordanian context and determine whether main variables such as age, gender, location, and level of education differ significantly.

Research Design

This study utilised a quantitative research approach. It is frequently considered more precise or valuable than qualitative research (Fetters & Freshwater, 2015). Quantitative research tends to be clear, simple, and valuable. Because of its efficiency and speed, the quantitative approach is appealing to a large number of scientists. Data processing and analysis technology allows quick processing and analysis even with large sample sizes. (Creswell & Plano Clark, 2011). This type of research is beneficial for producing data points when examining a specific group, such as the Jordanian English language learners selected for this study.

Participants

A group of 365 participants were involved in this study. These participants were selected using a simple random sampling technique. This sampling strategy is utilised because it requires less prior knowledge of the research population group. This procedure is entirely devoid of any bias or prejudice. It aids in making population-wide generalizations. The participants' ages ranged from 20 to over 50 years old. They are all citizens of Jordan who speak Arabic as their native language. They have varying levels of qualification. The characteristics of the sample selected for this study are shown in Table 1.

Table (1): Demographic Profile of the Study Participants.

| Variables | | Frequency | Percentage |
|-------------------|-------------------------------------|------------|-------------|
| Gender | Male | 163 | 44.6% |
| | Female | 202 | 55.3% |
| Educational Level | Elementary education/Vocational | 89 | 24.3% |
| | Secondary education | 65 | 17.8% |
| | High school or university education | 211 | 57.8% |
| Location | Village | 130 | 35.6% |
| | Town/city | 235 | 64.3% |
| Age Group | 20-30 | 133 | 36.4% |
| | 31-40 | 84 | 23.0% |
| | 41-50 | 76 | 20.8% |
| | 50+ | 72 | 19.7% |
| Total | | 365 | 100% |

Table 1 delineates the demographic composition of the participant cohort in the study, offering critical data for interpreting the sample's attributes. The gender distribution predominantly features female participants (55.3%), exceeding male representation (44.6%). This disparity may mirror broader demographic trends or suggest varying levels of engagement with English language learning among different genders.

Regarding educational attainment, a substantial portion of the sample (57.8%) possesses either high school or university education, which might imply a generally higher initial proficiency in English among participants. Geographically, the data exhibits a substantial urban bias, with 64.3% of participants hailing from town or city environments. This urban preponderance implies that the study's insights may predominantly reflect English language learning experiences in urban contexts. In terms of age demographics, the most represented group is the 20-30 age range (36.4%), signifying a predominantly younger participant base, which could have implications for the study's findings, particularly concerning current EFL learning trends.

Instrument

Questionnaires are one of the most cost-effective methods for collecting quantitative data. They are affordable and provide a rapid method of achieving outcomes. They are simple to perform, and many respondents can provide voluminous data. A questionnaire designed by Woll and Wei (2019) and amended by Klimova et al. (2021) serves as the primary instrument in this study due to the significance of its utilisation. This questionnaire is primarily intended to evaluate the cognitive benefits of language learning. In addition to the four questions pertaining to the respondents' demographic information, twenty main items focused on the participants' attitudes towards foreign language learning from a positive psychology perspective, specifically the participants' foreign language learning subjective feelings. The questionnaire requires no more than ten minutes of the participants' time. The questionnaire uses the 6-point Likert scale with the following options: "(Strongly agree, Agree, Agree a little, Disagree a little, Disagree, and strongly disagree)".

Data Collection and Analysis

Data collection was conducted online over the period spanning from late November 2022 to early February 2023. The online survey platform, Google Forms, was utilised to generate and disseminate a questionnaire to gather data from participants. The researchers employed social networking platforms as a means of gathering information. The participants were

informed that the data had been acquired anonymously, with only the inclusion of a time stamp and the exclusion of email addresses or IP addresses. The introductory section of the questionnaire explicitly conveyed the main objective of this research to the participants. Furthermore, it was explicitly stated that the confidentiality of data preservation would be upheld and that data would only be given when necessary for this research.

After collecting the data, a descriptive quantitative analysis was conducted utilising SPSS 27. The study sample's characteristics were described using frequencies and percentages. The validity and reliability of the questionnaire were assessed using Pearson correlation coefficients and Cronbach's alpha, respectively. The study employed means and standard deviations, the independent sample T-test, and One-way ANOVA to ascertain variations among the variables under investigation.

Findings

A pilot study was conducted on a group of 22 volunteers prior to the main study. The primary goal of this pilot study was to ensure the validity and reliability of the questionnaire used to collect data in this study. To ensure the questionnaire's reliability, Cronbach's alpha coefficient of the questionnaire's psychometric properties was measured. The generated internal consistency of Cronbach's Alpha value was 0.867, which is regarded as a good reliability value. The correlation coefficients between the scores of each item and the total score of the questionnaire are shown in Table 2. All the displayed correlation coefficients are significant at the 0.01 and 0.05 levels of significance. As a result, the questionnaire items are regarded as valid for the purpose for which they were designed.

Table (2): Items Correlation Coefficients Values.

| Item No | Correlation Coefficient | Item No | Correlation Coefficient | Item No | Correlation Coefficient | Item No | Correlation Coefficient |
|---------|-------------------------|---------|-------------------------|---------|-------------------------|---------|-------------------------|
| 1 | .569** | 6 | .632** | 11 | .666** | 16 | .205* |
| 2 | .608** | 7 | .675** | 12 | .685** | 17 | .323** |
| 3 | .607** | 8 | .672** | 13 | .696** | 18 | .329** |
| 4 | .432** | 9 | .666** | 14 | .659** | 19 | .627** |
| 5 | .606** | 10 | .670** | 15 | .346** | 20 | .664** |

*is significant at the 0.05 level **is significant at the 0.01 level

The Cognitive Benefits

To answer the first research question of this study, which deals with the most cognitive benefits of learning EFL in the Jordanian context, the six-point Likert scale used in this study was modified to a range of 1-5 degrees. These degrees were then divided into five categories: very low (1.79), low (1.80-2.59), moderate (2.60-3.39), high (3.40-4.19), and very high (4.20- 5). In a subsequent stage, the frequencies and percentages of the study sample's responses to the questionnaire items were extracted, and the means and standard deviations were determined. As indicated in Table 3, the items were ordered according to their arithmetic means.

Table (3): Descriptive Analysis for the Cognitive Benefits of Learning EFL.

| No. | Statements | Mean | Std. | Degree | Rank |
|-----|--|------|------|-----------|------|
| 1. | Learning a new language improves my concentration | 4.35 | 0.78 | very high | 4 |
| 2. | Learning a new language improves my memory | 4.34 | 0.83 | very high | 5 |
| 3. | Learning a new language improves my attention | 4.19 | 0.85 | High | 10 |
| 4. | Learning a new language improves my health | 3.34 | 1.03 | Moderate | 16 |
| 5. | Learning a new language improves my creativity | 4.26 | 0.89 | Very high | 9 |
| 6. | Learning a new language helps me find new friends | 4.31 | 0.83 | Very high | 6 |
| 7. | Learning a new language helps me understand different cultures | 4.60 | 0.69 | Very high | 1 |
| 8. | Learning a new language helps me while traveling | 4.59 | 0.75 | Very high | 2 |
| 9. | Learning a new language helps me with learning other things, too | 4.30 | 0.83 | Very high | 7 |

| No. | Statements | Mean | Std. | Degree | Rank |
|--------------|--|-------------|-------------|-------------|------|
| 10. | Learning a new language helps me while looking for life motivation | 3.97 | 0.93 | High | 14 |
| 11. | Learning a new language helps me with finding the purpose of my life | 3.59 | 1.01 | High | 15 |
| 12. | Learning a new language is enjoyable | 4.26 | 0.81 | Very high | 8 |
| 13. | Learning a new language brings me personal satisfaction | 4.17 | 0.88 | High | 11 |
| 14. | Learning a foreign language brings me feelings of happiness | 4.07 | 0.87 | High | 12 |
| 15. | Learning a foreign language is stressful | 2.90 | 1.10 | Moderate | 18 |
| 16. | Learning a new language does not bring any benefits to me | 1.97 | 1.10 | low | 20 |
| 17. | Learning a new language can have a negative impact on me | 2.06 | 1.08 | low | 19 |
| 18. | Learning a new language occupies a lot of my time | 3.12 | 1.10 | Moderate | 17 |
| 19. | Learning a new language is a positive motivation for me | 4.01 | 0.87 | High | 13 |
| 20. | Learning a new language will be useful for me in the future | 4.47 | 0.79 | Very high | 3 |
| Total | | 3.84 | 0.48 | high | |

With a mean score of 3.84 and a standard deviation of 0.48, Table 2 demonstrates a high level of consensus about the cognitive benefits of

learning EFL in the Jordanian context. This mean value, less than 0.01, indicates the homogeneity of the study sample's perception of the cognitive benefits of EFL learning. While nine items received a very high degree, six received a high degree, three received a moderate degree, and just two received a low degree. Items 1, 2, 5, 6, 7, 8, 9, 12 and 20 had the highest mean values. The mean values were lowest for items 16 and 17. Figure 1 depicts the mean values graphically.

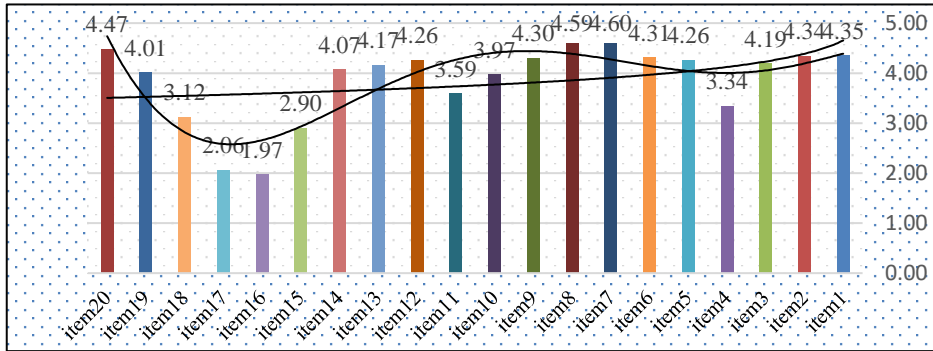


Figure (1): The Mean Values of the Questionnaire's Items.

Gender, Location and Educational Level–Based Differences

The Independent Sample T-test and One-Way Analysis were used to address the second research question, which examined whether the aforementioned cognitive benefits differ significantly by independent variables such as age, gender, location, and education level. Starting with the age of the participants, the One-Way Analysis revealed no significant differences at the 0.05 level between the responses of the study sample regarding the cognitive benefits of learning EFL in the Jordanian context based on the Age Group variable, as shown in Table 4.

Table (4): Age-Based Differences.

| Source | Sum Squares | Mean Square | F | Sig. |
|----------------|---------------|-------------|------|------|
| Between Groups | .026 | .009 | .035 | .991 |
| Within Groups | 28.174 | .243 | | |
| Total | 28.200 | | | |

**is significant at the 0.05 level*

To determine whether there are statistically significant differences in the responses of the study sample based on gender and locations' means and standard deviation were computed. The Independent Sample T-test was then performed. Table 5 shows no statistically significant differences at the 0.05 level between the study sample's responses on the cognitive benefits of learning EFL in the Jordanian context based on the variable gender. However, there are significant differences due to the location variable. This difference benefits individuals who live in towns or large cities.

Table (5): Gender and Location-based Differences.

| Variables | | Mean | SD | T | Sig |
|-----------|-----------|------|------|-------|--------|
| Gender | Male | 3.79 | 0.59 | 1.005 | 0.317 |
| | Female | 3.88 | 0.40 | | |
| Location | Town/city | 3.92 | 0.39 | 2.170 | 0.032* |
| | Village | 3.73 | 0.58 | | |

The One-Way Analysis of Variance test was performed to discover statistical differences between the means responses of the study sample about the degree of cognitive benefits of learning EFL in the Jordanian context according to the level of education variable. As demonstrated in Table 6, there are statistically significant differences at the level of 0.05 between the study sample's responses on the cognitive benefits of learning EFL in the Jordanian setting based on the level of education variable.

Table (6): The One-Way Anova Analysis of the Educational Level-Based Differences.

| Source | Sum Squares | Mean Square | F | Sig. |
|----------------|---------------|-------------|-------|-------|
| Between Groups | 2.268 | 1.134 | 5.161 | .007* |
| Within Groups | 25.933 | .220 | | |
| Total | 28.202 | | | |

**is significant at the 0.05 level.*

The post-test (LSD) was then employed, as shown in Table 7, to identify the direction of these differences. It was found that in favour of

secondary education, there exist differences between the elementary/vocational and secondary education levels. There are also differences between the level of elementary education/vocational education and the level of high school or university education that favour the latter. This implies that as education levels rise, so does awareness of the significance of learning EFL in the Jordanian context.

Discussion

Discussion of the first research question

Addressing the first research question regarding the cognitive benefits of EFL within Jordan's predominantly Arabic-speaking community, the study yielded significant findings. Key cognitive benefits included enhanced concentration, memory, attention, health, and creativity.

The study revealed that learning a new language significantly improves focus, memory, and other cognitive functions. This improvement is attributed to the stimulation of growth in specific brain regions. Learners not only benefit in terms of cognitive abilities but also experience an overall enhancement in their general health and information-processing capabilities (De Costa, 2010; Wong et al., 2019). Such findings align with previous research demonstrating the multifaceted benefits of language learning.

The findings demonstrate a significant increase in attention and memorization among language learners across all age groups, underscoring the universal applicability of cognitive benefits derived from language learning. This enhancement is not limited to younger learners, highlighting the broad relevance of language learning for cognitive development. In particular, learning a new language markedly improves concentration and enhances both short-term and long-term memory retention. This phenomenon, extensively documented in language learning research, arises from the inherent requirement of heightened mental focus and active engagement in learning a new linguistic system, which exercises and strengthens memory faculties (Klímová & Pikhart, 2020; Sozudogru et al., 2019). The process of language learning demands increased attentiveness that transcends simple vocabulary acquisition. It

involves grasping new grammatical structures, syntax, and idiomatic expressions, actively stimulating the brain and enhancing cognitive agility and memory capabilities. This engagement in language learning extends its influence beyond mere linguistic skills, echoing into broader cognitive areas, particularly enhancing communication skills. As learners tackle the complexities of a new language, they evolve into more engaged listeners and proficient multitaskers, honing their ability to process information efficiently and respond in contextually appropriate manners - skills critical for adequate language proficiency (Al-khresheh & Al-Ruwaili, 2023). Furthermore, memorizing new vocabulary and grammatical norms in a foreign language entail more than expanding linguistic knowledge; it is a cognitive exercise that enhances memory functions beyond the language learning context. This cognitive cross-training effect means that language learners are often better equipped to remember and process information in various life aspects, highlighting the extensive impact of language learning on overall mental acuity (Martyushev et al., 2021). Such findings from this study illuminate the far-reaching implications of learning a new language, showcasing its role as a potent tool for comprehensive cognitive development.

Moreover, the participants particularly highlighted creativity as a significant benefit. Learning a new language in a monolingual environment challenges learners to adapt to new grammatical rules and comprehension skills, fostering inventiveness and cognitive flexibility (Hilchey & Klein, 2011). This creative boost is further supported by the learners' engagement in various mental processes that unlock their creative potential (Burlakova & Gubanova, 2019; Demir, 2021; Houdé & Borst, 2022)

Language learning transcends cognitive skill enhancement, catalyzing profound cultural immersion and cultivating open-mindedness. The findings reveal that learning a new language facilitated a comprehensive understanding of diverse cultures, significantly broadening learners' global perspectives and intercultural awareness. This phenomenon is corroborated by Klimova et al. (2021), who highlight the pivotal role of language learning in promoting cultural sensitivity and equipping

individuals with the skills necessary to navigate varied cultural landscapes effectively. Furthermore, the participants described the language learning experience as intellectually stimulating and immensely beneficial for their future endeavours. This observation underscores the notion that language learning extends beyond acquiring linguistic skills; it paves the way for engaging with a broader spectrum of cultural experiences, thereby fostering substantial personal development. Park et al. (2013) and Al-khresheh (2023) further reinforce this perspective, noting that engagement in language learning activities cultivates a deeper appreciation for cultural diversity and nurtures a more inclusive worldview, establishing language learning as an invaluable pursuit for those seeking to enhance their cultural understanding and interpersonal competencies.

While the study highlights the overwhelming benefits of language learning, it also acknowledges the challenges learners face. Some respondents reported intimidation due to the language's complexity, time constraints, or course expenses (Bubbico et al., 2019). However, these challenges were not perceived as significant impediments, reinforcing the view that the benefits of learning a new language in a monolingual community outweigh potential difficulties. This study underscores the vast cognitive benefits of EFL learning in a predominantly Arabic-speaking community. From enhancing cognitive functions to fostering creativity and cultural understanding, the advantages are clear and significant. Despite particular challenges, the overall perception is an immense benefit, with language learning as a gateway to cognitive development and broader cultural engagement.

Discussion of the second research question

In examining the second research question, which probes the influence of demographic factors such as age, gender, location, and educational level on the cognitive benefits of EFL learning in Jordan's predominantly Arabic-speaking community, the study conducted an in-depth analysis of these variables. This exploration revealed a remarkable uniformity in cognitive benefit realization across different age groups and between genders, indicating no significant disparities. This consistency across various demographics highlights a general acknowledgement of the value

of language learning, transcending age and gender barriers. It reflects a collective understanding within the participant pool regarding the indispensable nature and wide-ranging cognitive benefits of learning a new language in Jordan.

However, the study unveiled notable differences when assessing the impact of location and educational attainment. Urban participants reported enhanced cognitive benefits from language learning compared to their rural peers, a disparity attributable to the heightened accessibility of resources and educational opportunities prevalent in urban environments, as noted by Weziak-Białowska (2016). This finding points to the significant influence of geographical location in determining the extent to which individuals can harness the cognitive benefits offered by language learning.

Moreover, the level of education emerged as a critical determinant in participants' perception and acknowledgement of the advantages of language learning. Specifically, individuals with higher education levels, especially those holding university degrees, demonstrated an increased awareness of the potential positive impacts of language learning on their career prospects and future opportunities. This observation aligns with the insights of Fiske et al. (2009), who identified a correlation between higher educational achievement and enhanced motivation for and recognition of the advantages of learning additional language skills.

Overall, the findings elucidate the complex and varied ways different segments of a predominantly Arabic-speaking society experience and appreciate the cognitive benefits of EFL learning. While specific benefits are universally recognized across all age and gender groups, factors such as geographic location and educational level introduce considerable variation in the degree and awareness of these cognitive benefits.

Conclusion

This study highlights the multifaceted cognitive and social benefits of learning English in monolingual contexts, such as the Jordanian setting. Learners demonstrated improvements in cognitive domains such as concentration, memory, and attention, among many others. Furthermore,

there were discernible enhancements in inventiveness and general health. From a sociocultural standpoint, learning a new language facilitated the formation of diverse social connections, enhancing the possibility of enduring friendships and nurturing a deeper understanding of global cultures, particularly during travel. In addition, the study revealed a connection between the derived benefits and particular demographic parameters. Location and educational attainment emerged as significant factors, while age and gender remained statistically insignificant. Notably, individuals with advanced educational backgrounds demonstrated a heightened awareness of the professional and prospective opportunities associated with foreign language proficiency, enhancing their motivation to learn. Simultaneously, urban residents garnered enhanced benefits from their linguistic endeavours, highlighting the importance of the environment in language learning outcomes.

Limitations and Recommendations for Further Research

There are certain limitations to the study. The study was conducted in a monolingual environment where English is not frequently used. The cognitive benefits of learning a new language, such as English, might be studied more thoroughly in bilingual and multilingual settings. Another limitation is the sample size, which is relatively small. As a result, the findings may not be generalisable in some way. Similar research would need to be conducted in a more extensive and, presumably, more multinational environment to get statistically more reliable data. More participants exploring different independent variables are welcomed in future studies. This study's data was gathered through the use of a survey questionnaire. There was no qualitative data gathered. Future research may yield better results using a mixed-method approach of quantitative and qualitative data, such as conducting interviews. Notwithstanding these limitations, the research offers intriguing and consequential findings that merit replication on a broader, perhaps even worldwide, scale.

Declarations

Ethical Approval: 'The researchers utilized social networking to collect information. The participants were advised that the data were

collected namelessly, with only the time stamp and no email addresses or IP addresses taken. They were informed that participation is voluntary. On the first page of the questionnaire, the primary purpose of this study was stated to the respondents. In addition to maintaining the confidentiality of all data, it was specified that data would not be disclosed until required for this study.'

Competing interests: 'The authors declare that they have no competing interests.'

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Availability of data and materials: 'The datasets generated during and/or analysed during the current study are available from the corresponding author upon reasonable request.'

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