





PAPER

Harnessing Interactive Mobile Learning: The Impact of Instagram Reels on German Vocabulary Acquisition

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ABSTRACT

This study investigates the efficacy of Instagram Reels in supporting vocabulary acquisition by German as a Foreign Language (GFL) students. A mixed-method research design was adopted, utilising quantitative and qualitative measures. A questionnaire was used to examine the use of Instagram Reels by 140 university GFL learners; all were attending courses in GFL at the University of Jordan. Of these, 60 sophomore-level (30 in the control group and 30 in the experimental group) students were recruited to participate in an empirical study to gauge the effect of Instagram-based instruction on German vocabulary acquisition. Pre- and post-tests were administered to measure vocabulary acquisition and use in context. The questionnaire results highlighted that Instagram is a popular tool among GFL learners and that the primary learning goals were academic purposes and personal interests. Participants preferred content focusing on daily language use rather than grammar or cultural aspects. Instagram Reels received positive feedback for improving language skills. The empirical results indicated that the experimental group outperformed the control group; they showed significant improvement in the ability to acquire vocabulary, with adjusted post-test mean scores greater for the experimental group. The study brings to the fore some pedagogical possibilities based on integrating widely used social media tools, in this case, Instagram, while teaching foreign languages. It calls, therefore, for educators to consider a more novel pedagogical approach, creating a more active and interactive environment for learning foreign languages. The study underlines that teaching practices need modification with regard to the changing times and prevailing digital practices that the learners of today's world have become accustomed to.

KEYWORDS

Instagram Reels, vocabulary acquisition, German as a Foreign Language (GFL), foreign language teaching

1 INTRODUCTION

Foreign language learning and teaching have undergone significant transformations in the last few decades, with technology driving much of this change. Traditional

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methods of rote memorisation and classroom-based drills are increasingly being supplemented and, in some cases, replaced by innovative approaches made possible by digital tools. Among some powerful facilitators that have emerged to aid language acquisition are computer-assisted language learning (CALL) tools, mobile-assisted language learning (MALL) apps, and virtual reality environments that allow learners more practice, feedback, and exposure to authentic use. Otto [1] writes:

Multimedia and the Web continue to figure prominently in all aspects of language learning. Educational models have largely shifted away from exclusively teacher-centred classrooms toward student-orientated, active and collaborative learning environments, with the student as creator of digital texts and media and (co-)constructor of knowledge, both in and out of the classroom. No longer tied exclusively to desktop computer workstations, language students routinely use wireless mobile devices—laptops, tablets, and smartphones—to access lessons, to engage in development projects, and to interact with other learners. (p. 19)

In fact, the internet has further expanded the horizons of language education, allowing learners to access a wealth of resources and interact with native speakers worldwide.

Some of the most significant technological advancements in language learning involve social media platforms that provide new avenues for interactive and engaging language learning. Mondahl and Razmerita [2] (p. 342) argue that social media “facilitates communication, sharing information and online socialisation. Using social media, students may record discussions and upload them on the platform for further knowledge sharing, assessment, reflection and feedback from peers and professors.” Social media, in itself, provides opportunities for communication, cooperation, and content creation. Social networking sites, such as Facebook, Twitter, TikTok, and YouTube, have opened up a new paradigm of approaching languages because of the vast array of multimedia content, interacting communities, and possibilities for real-time communication that these platforms offer. For instance, such platforms allow users to be exposed to the target language by following accounts in a target language, participating in discussions with native speakers, and accessing culturally relevant content.

While most traditional methods of learning a new language focus on grammatical structures and lists of vocabulary in isolation, social media sites provide a visually rich environment where learners can see language in action. Integrating text, images, and videos within the posts develops comprehensibility and retention of new language concepts, making learning more effective and engaging. Among them, Instagram is one of the most helpful foreign language learning tools due to its uniqueness and popularity. Gonulal [3] (p. 319) contends that “Instagram and other social networking platforms can be a valuable source for English as a foreign language learning contexts where it can be quite challenging to interact with native speakers or speakers with good command of English.” Indeed, the features of Stories and Reels have helped deliver educational content in small, easily digestible bits. Instagram Reels provide short video content that can attract the learners’ attention to introduce vocabulary, expressions, and nuances in the target language. The interactive nature of Instagram Reels encourages interaction through likes, comments, or direct messages with the content to build the community and inspire motivation. This helps language learners navigate through and discover, via hashtags or location tags, accounts based on a particular language in which the owners speak

natively or offer region-based content that facilitates a deep dive into immersion and customised learning.

Despite the potential of Instagram, its role remains relatively unexplored as far as foreign language learning is concerned. While there are studies related to the use of technology and social media in general for language acquisition (see, for example, [4], [5]), there is little empirical evidence regarding the exact influence features, such as Instagram Reels, have on vocabulary development and contextual language use by learners. Most of the available literature focuses on platforms, such as YouTube or Facebook, leaving a gap in the understanding of the pedagogical value of Instagram. In addition, although most language educators seem to be aware of its potential, there is limited structured methodology and evidence-based guidelines regarding appropriately integrating Instagram Reels into formal language instruction. This study gap becomes even more relevant considering the growing dependence of the younger generation on social media for educational purposes. Therefore, this study tries to fill the lacuna by analysing the efficacy of Instagram Reels as a tool for improving vocabulary acquisition and contextual language use in students learning German as a Foreign Language (GFL). Spanning the gap between theoretical potentiality and practical application, this current study develops a more profound understanding through which social media and language education meet at one point or another.

In the context of German language learning, Instagram Reels may offer unique advantages that fit well with the challenges learners face. German, a rather complicated grammatical language, has a precise vocabulary, which is daunting to non-native speakers. The whole length and specificity make vocabulary acquisition and retention quite challenging in general for many learners of this language. Instagram Reels are short and engaging, presenting a solution to learning vocabulary and expressions with memorable scenarios in context. For example, an Instagram Reel might show a native speaker using idiomatic expressions at a local market. The subtitles and visual aids help drive the meaning of the phrases home. Such content not only facilitates vocabulary retention but also gives an insight into how words and expressions are used in context, hence helping learners bridge the gap between theoretical knowledge and practical application. Further, the emphasis on user-generated content makes Instagram Reels dynamic as a language-learning platform. Language instructors and influencers create and share content on Instagram for all proficiency levels, from beginner to advanced. Learners can thus choose from a wide range of resources on pronunciation guides, grammar explanations, and cultural insights.

However, despite such advantages, integrating Instagram Reels into language learning also has some possible drawbacks. One limitation may be the quality and reliability of the content users provide. Unlike most educational materials, which are typically prepared and checked by experts, Instagram Reel content is widely varied in its level of accuracy and pedagogical value. Alternatively, it may be subject to several problems, such as misinformation and poorly explained concepts. However, the fact is that the platform also hosts all the other entertaining content that diverts the learners' concentration from their goals of improving a new language. The above challenges, taken into perspective, urge learners towards critical thinking when they select materials or promote digital literacy as much as possible. This is a timely study, considering the recent popularity of Instagram Reels and its potential to reshape language learning practices. The study tries to contribute to the foreign language education literature by providing an empirical analysis of the effects the feature will have on vocabulary acquisition and contextual language use. This study responds not only to a gap in the literature but also to the broader efforts at renewing and

innovating language teaching methodologies in a digital age. The study answers the following research questions:

1. What are learners' perceptions and attitudes towards using Instagram for language learning, specifically through its Reels feature?
2. What challenges or limitations do students encounter when using Instagram Reels for language learning, and what can be done to address them?
3. Are there statistically significant differences at the ($\alpha = 0.05$) level between the mean scores of students in the control and experimental groups in German vocabulary usage, attributed to the teaching method (traditional vs. Instagram-based)?
4. To what extent does the usage of Instagram Reels enhance vocabulary acquisition in students of GFL?
5. To what extent does using Instagram Reels enhance the contextual use of vocabulary in real-life situations for German language learners?

2 LITERATURE REVIEW

Digital platforms have become increasingly crucial in second language (L2) learning in recent years. Instagram stands out as an innovative and versatile tool for language education, providing interactive, multimodal, and mobile-friendly opportunities for learners. This section reviews recent research and evidence to explore how Instagram contributes to language learning, particularly in vocabulary building, learner engagement, cultural awareness, and the challenges and strategies educators encounter when using it. As a visually driven platform, Instagram has reshaped how people approach second language learning, offering unique opportunities for personalised and adaptive learning experiences [6]. In the context of MALL, the interactive features of platforms such as Instagram Reels are essential for engaging learners and promoting L2 learning. These functions facilitate two-way communication, giving learners immediate feedback and fostering a participatory learning environment. According to Sun and Fu [6], interactivity is a cornerstone of personalised and adaptive mobile learning environments. The ability to interact with peers, educators, or native speakers through such features enhances learner motivation, self-expression, and a sense of community—all critical components of second language acquisition in digital contexts.

As a MALL tool, Instagram offers learners access to authentic language content, multimodal communication, and global communities. Wagner [7] describes Instagram as a collection of microblogs combining text, visuals, and audio to convey meaning, allowing learners to interact with the target language in real-world scenarios. Moreover, Instagram's widespread popularity among young adults makes it a relevant and engaging educational resource. Studies by Erarslan [8] and Agustin and Ayu [9] highlight Instagram's appeal among university students, noting its potential to complement traditional classroom instruction by offering informal and enjoyable learning experiences. According to Sun and Fu [6], Instagram's algorithm-driven content curation can align with the principles of adaptive learning, as it customises content to students' preferences and interaction, creating a personalised learning feed that adapts to learners' needs and proficiency levels [6]. This makes Instagram not only a social platform to spend time freely but also a powerful tool for mobile-based adaptive learning, where learners, and in this case, students, can access content that matches their interest in learning vocabulary and acquiring it in a sociocultural conceptual framework. For instance, if a student frequently engages

with German-language content, Instagram will prioritise similar posts, creating a personalised feel that can enhance vocabulary acquisition and allow more cultural understanding. However, the increasing integration of Instagram Reels and similar digital platforms into students' academic routines raises concerns about potential digital addiction and its impact on learning outcomes. Karakose, Tülübaş, and Papadakis [10] conducted a comprehensive bibliometric study that revealed how digital addiction has emerged as a significant topic in educational research, particularly regarding student engagement and performance. Building on this, Tülübaş, Karakose, and Papadakis [11] found a complex relationship between digital addiction and academic achievement, noting that excessive use of digital tools can negatively impact students' performance when not adequately managed. These findings suggest the need for balanced and mindful integration of social media in learning environments, particularly in language acquisition contexts where motivation and digital habits intersect.

One of Instagram Reels' biggest strengths is its role in vocabulary acquisition. Gonulal [3] explains that Instagram's concise and visually rich content, such as Reels and Stories, helps learners learn new vocabulary in a meaningful way. For example, Instagram Reels can showcase vocabulary in everyday scenarios such as shopping or dining, with subtitles and visuals to aid comprehension and memory. This multimodal approach aligns with Paivio's Dual Coding Theory, which suggests that combining verbal and visual information improves retention and recall [12]. Similarly, Agustin and Ayu [9] found that learners who interacted with Instagram Reels featuring captions and hashtags significantly improved their vocabulary. These features, geotags, and hashtags allow learners to explore culturally specific vocabulary, broadening their language understanding. Engagement and motivation are essential for successful language learning, and Instagram's interactive nature fosters both. Ebadi [13] examined the link between Instagram usage and motivation in learning an L2. They found that features such as likes, comments, and direct engagement with content creators kept learners interested and motivated. Building on this, Gomes Junior [14] highlights Instagram's ability to create personal learning networks that promote autonomy, diversity, and interaction. By connecting with native speakers, participating in fandoms, or exploring multimodal content, learners can develop linguistic skills and cultural competencies, thereby enhancing interactions, preferences, and motivation to continue learning [15], [16], [9], [17].

In addition to boosting vocabulary and engagement, Instagram provides unique opportunities for cultural exploration and sociolinguistic learning. Berti [18] emphasises that Instagram's user-generated content exposes learners to a wide variety of cultural practices, encouraging critical thinking and cultural awareness. For example, learners can follow accounts that showcase regional customs, slang, and real-life conversations—things often missing from traditional textbooks. Instagram's combination of visual and textual elements also helps learners pick up on cultural nuances. Lee [19] notes that learners can use Instagram to interpret and adapt to cultural contexts, bridging the gap between theory and real-world application. This corresponds with Vygotsky's sociocultural theory, which emphasises the significance of social interaction and cultural context [20]. This study aims to highlight the efficacy of Instagram Reels in appropriate cultural contexts, thereby improving their ability to communicate effectively in real-world situations.

However, using Instagram for L2 learning is not without its challenges. One major issue is the inconsistent quality of content and the potential for distractions. As Al-Ali [21] and Agustin and Ayu [9] point out, not all Instagram content is educational or accurate, and learners may encounter irrelevant or misleading material.

Additionally, the platform's reliance on user-generated content means language and cultural representation quality can vary. Wagner [7] stresses the importance of teaching learners to critically evaluate Instagram content to navigate these challenges effectively. According to Sun and Fu [6], it is essential to create and use systems to filter high-quality content and provide personalised learning resources and accurate material that ensure the successful acquisition of vocabulary.

To overcome these obstacles, educators have suggested creative strategies for using Instagram Reels in language education. For example, Erarslan [8] recommends activities such as creating e-portfolios, organising virtual scavenger hunts, or collaborating on storytelling projects. Berti [18] suggests integrating Instagram Reels into classroom activities to improve cultural understanding and sociolinguistic skills. Furthermore, researchers like Ebadi [13] and Gomes Junior [14] encourage using Instagram's analytics tools to track learner engagement and adjust teaching methods accordingly. By weaving Instagram's features into a well-structured teaching approach, educators can create a dynamic and interactive learning environment that reflects today's digital landscape.

The study shows that Instagram Reels have great potential to transform L2 learning, offering unique benefits in vocabulary acquisition, engagement, cultural awareness, and innovative teaching. Its multimodal and interactive nature aligns with established theories of language acquisition, such as Dual Coding Theory by Paivio and The Input Hypothesis by Krashen. Additionally, its algorithm-driven content curation supports personalised and adaptive learning. However, its success depends on addressing challenges like content quality and the need for structured methodologies.

3 METHODOLOGY

The present study aims to assess the efficacy of Instagram's Reels feature in enhancing the acquisition of vocabulary and daily life expressions, as well as their correct contextual usage, among students learning GFL. The study employed a mixed-method research design, integrating quantitative and qualitative approaches to enable a more comprehensive data analysis.

3.1 Sampling and participants

The participants were divided into experimental and control groups using an experimental methodology based on a questionnaire conducted to collect data. The main goal of the study was to identify any appreciable differences in academic performance between students who used the Instagram Reels feature regularly to learn and acquire new vocabulary or daily expressions in German and those who acquired their vocabulary traditionally in classroom settings. The study involved 60 second-year students enrolled in two university-level German-speaking courses offered by the German section at the Faculty of Foreign Languages at the University of Jordan during the academic year 2024–2025. All these participants were Jordanian, non-native German speakers around the age of 18–19. They had all achieved an A2 level in German according to the CEFR after completing their freshman year in the double major of German-English language. Based on the conducted questionnaire, 30 students were selected to participate in the experimental group (Group E), while another 30 students were assigned to the control group (Group C). Participants in

Group E were instructed to focus for three months on the content provided by the Instagram accounts they follow, as listed in the questionnaire, which aimed at teaching the German language. Meanwhile, participants in Group C continued learning in a traditional classroom setting. This study was approved by the Head of the Department of European Languages at the University of Jordan. All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional research committee and the 1964 Declaration of Helsinki and its later amendments. Written informed consent was obtained from all participants prior to data collection.

3.2 Research instruments and procedures

For data collection, as mentioned above, a questionnaire was distributed via Google Forms to 140 students enrolled in German-speaking courses at the University of Jordan. The purpose was to gather information about their perceptions of using Instagram to learn foreign languages in general and improve their language skills in German. According to the speaking course curriculum, students should be able to participate in dialogues that simulate real-life situations in German. As is known, successful interaction in dialogues requires a solid linguistic reserve of vocabulary and grammatical structures. The speaking course provides students with this foundation to improve their conversational skills in the target language. The main goal of the questionnaire was to identify participants who use Instagram to learn German and to determine which educational accounts they follow. This information was used to analyse the content of these accounts, ascertain their academic goals, and identify those that focus on acquiring vocabulary and daily expressions. The questionnaire, developed by the authors, was designed to gain deeper insights into students' attitudes and experiences regarding the use of Instagram for learning foreign languages. It consists of multiple-choice and open-ended questions. The first section included questions about the participants' demographic information. The second section explored the students' use of Instagram for learning foreign languages, including the duration and frequency of use, their languages, and the most followed Instagram channels for language learning. Section three includes 13 multiple-choice questions and features more detailed enquiries exploring various aspects related to the benefits of Instagram Reels and the extent to which these benefits are realised.

3.3 Pre- and post-tests

Thirty participants who regularly use Instagram Reels, i.e., to learn German, were selected for Group E. Another 30 participants, who either do not have an Instagram account or use it for non-academic purposes or rarely for language learning, were selected for Group C. Based on the content of the most followed accounts, a pre-test and a post-test were developed for the two groups, each consisting of 15 multiple-choice questions designed to assess newly acquired vocabulary and expressions, including their correct contextual usage. The pre-test and post-test, each lasting 10 minutes, were administered on the University campus under close supervision by the instructor during the first semester of the 2023–2024 academic year. Both groups carried out the same pre- and post-test to contrast and compare results and thus confirm whether significant vocabulary improvement emerged in the E group after three months of the Instagram Reels self-learning experiment and whether there were significant differences between the two groups.

3.4 Data analysis

The primary objective of this study was to identify notable differences in contextual vocabulary acquisition and academic performance between the two groups. We conducted statistical analyses that provided valuable insights into the effects of using social networks such as Instagram to enhance students' language proficiency and overall performance.

4 RESULTS

This section presents the results of the data analysis, divided into two parts: the questionnaire results and the empirical results.

4.1 Questionnaire results

As mentioned above, 140 GFL students responded to the questionnaire, which aimed to examine their use and perceptions of Instagram in learning GFL. Most participants were female, making up 73.6% of the sample (103 out of 140). In contrast, males represented 26.4% (37 participants), as shown in Figure 1.

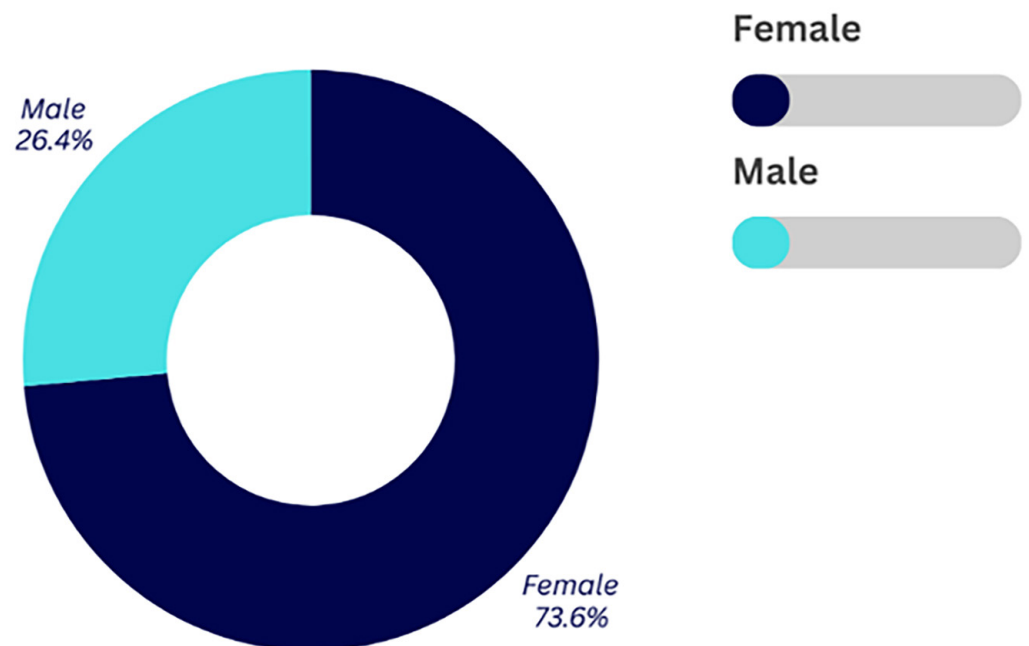


Fig. 1. Gender distribution of GFL students

This notable gender imbalance suggests that female learners may have a greater interest in or preference for using Instagram as a language learning tool. This trend could also reflect larger patterns in academic involvement or digital engagement. While males make up a smaller proportion, their participation remains significant, highlighting that both genders recognise Instagram's potential as an educational resource.

DISTRIBUTION OF SURVEY PARTICIPANTS BY YEAR OF STUDY (TOTAL N=140)

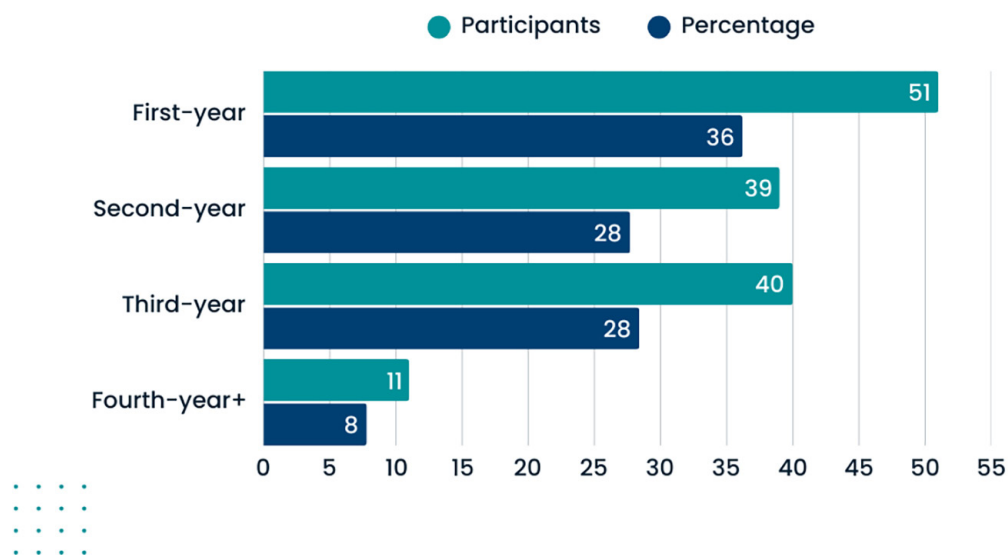


Fig. 2. Distribution of survey participants by year of study

Figure 2 illustrates the distribution of participants by year of study. First-year students comprise the largest group, accounting for 36.2% (51 out of 140 participants). They are followed by third-year students at 28.4% (40 participants) and second-year students at 27.7% (39 participants). Fourth-year or higher students represent the smallest proportion at 7.8% (11 participants). These findings suggest that first-year students show the highest interest in using Instagram for language learning, possibly due to a greater need for foundational language skills or a stronger engagement with digital tools. Meanwhile, the lower participation of fourth-year and higher students may reflect their focus on advanced coursework or reduced reliance on supplementary platforms, such as Instagram.

1. Use of Instagram for GFL learning: The data on Instagram app ownership shows that an overwhelming majority of participants (98.6%, or 139 out of 141) use the app, while only 1.4% (2 participants) do not. This near-universal usage demonstrates Instagram’s widespread presence and deep integration into daily digital routines. Such a high level of app ownership highlights the platform’s importance as a potential tool for GFL learning and its ability to engage a broad audience. According to the data on Instagram usage for learning GFL, an overwhelming 94.3% of participants (133 out of 141) use the app for this purpose, while only 5.7% (8 participants) do not. This suggests that most participants see Instagram as a valuable tool for language learning and actively integrate it into their study routines. A small percentage of non-users indicate that some individuals prefer more traditional methods or other platforms for learning languages. However, Instagram’s widespread acceptance highlights its importance and effectiveness in facilitating foreign language acquisition.

The data on Instagram usage for learning GFL shows that most participants (68.1%) have been using the platform for a relatively short time. Specifically, 38.3% (54 participants) reported using it for less than six months, while 29.8% (42 participants) used it for six months to one year. A smaller percentage, 21.3% (30 participants), reported using Instagram for one to two years. Long-term users, those with two to five years or more than five years of experience, make up only 10.6% (15 participants combined). This pattern suggests that using Instagram as a tool for GFL learning is a relatively recent trend, drawing a growing number of users. The limited number of long-term users may reflect the rapidly changing landscape of digital learning tools and the relatively new practice of using Instagram for educational purposes. These findings emphasise Instagram's rising popularity and potential as a valuable platform for GFL acquisition.

The data on how often people use Instagram to learn GFL reveals varying engagement patterns. The most frequent users are those who access the platform daily (31.9%, or 45 participants) and multiple times a day (24.1%, or 34 participants), making up over half of the sample (56%). Another notable group uses Instagram 2–3 times per week (24.8%, or 35 participants), reflecting moderate involvement. Less frequent users include those who log in once a week (12.8%, or 18 participants). This pattern shows that many participants incorporate Instagram into their daily or near-daily routines for language learning, emphasising its role as a consistent educational tool. At the same time, the presence of less frequent users suggests differing levels of reliance on the platform, possibly influenced by personal preferences, learning goals, or the availability of other resources.

2. Students' goals for using Instagram to improve GFL proficiency: The data on participants' primary goals for using Instagram to enhance GFL proficiency reveals that academic purposes are the most common motivation, with 44.0% (62 out of 141 participants) identifying this as their top priority. Personal interest and enjoyment rank second, accounting for 21.3% (30 participants), while 19.1% (27 participants) are motivated by travel and cultural immersion. Professional opportunities are the driving factor for 15.6% (22 participants). These results suggest that educational advancement is the key reason participants turn to Instagram as a language-learning tool, underscoring the platform's perceived effectiveness in supporting academic success. Personal interest and travel-related motivations also play significant roles, highlighting Instagram's ability to engage learners with its culturally rich and enjoyable content.

As for the Instagram channels students use to improve GFL proficiency, the data highlights various preferences and notable trends in channel popularity. The most popular channel, *Deutsch.mit.Mira* was chosen by 16.3% of respondents (27 out of 166 mentions), showing a clear preference for its content. Other well-liked channels include *Deutsch.mit.karim* (6.0%, 10 mentions), *dw_deutschlernen*, *Deutsch_mit_deema*, and *Deutsch_mit_karam* (each at 5.4%, 9 mentions). Additionally, channels like *Lerndeutsch.mit.iman* (4.8%, eight mentions) and *Easy German* (3.6%, six mentions) also attracted considerable interest. Smaller channels, such as *Deutsch mit Sarah* (2.4%, four mentions) and *German1o1* (1.8%, three mentions), reflect participants' engagement with less frequently mentioned resources. These findings underline the popularity of specific channels that align with learners' needs and preferences, particularly those offering engaging and reliable content. The variety of options highlights Instagram's unique role in catering to individual learning styles, providing access to well-known and niche resources for learning German.

3. How is Instagram used to improve GFL proficiency? The data indicates that Instagram provides a high level of exposure to posts in participants' target foreign language (GFL). A significant majority of participants report encountering such posts either frequently (44.0%, 62 participants) or very frequently (30.5%, 43 participants), making up a combined total of 74.5%. This suggests that Instagram serves as an effective platform for consistent and regular exposure to the target language. A smaller portion of participants encounter these posts occasionally (15.6%, 22 participants), while 8.5% (12 participants) report seeing them rarely, and only 1.4% (2 participants) state that they never come across posts in their target language. These lower levels of exposure could stem from individual differences in how users curate their feeds, interact with language-focused accounts, or use Instagram for purposes other than language learning.

As for the content in these posts, the data from Instagram users about their preferred language-learning content shows a clear preference for daily language usage, accounting for 69.1% (105 out of 152 mentions). This demonstrates a strong interest in practical, real-world applications of the target language, suggesting that learners prioritise content that helps them communicate effectively in everyday situations. Other categories, such as grammar (15.8%, 24 mentions) and pronunciation (9.2%, 14 mentions), are less dominant but still significant, as they cater to learners looking to improve specific language skills. Meanwhile, cultural content (5.9%, nine mentions) is the least preferred. This could indicate that learners focus more on functional language acquisition or that cultural insights are already integrated into other content types. These findings underline the importance of creating Instagram content that emphasises practical and interactive language use while including supplementary materials on grammar and pronunciation for a comprehensive learning experience.

As for GFL skills, the data on the role of Instagram Reels in improving foreign language skills shows overwhelmingly positive results. Over half of the participants (53.9%, or 76 out of 141) said that Instagram Reels were helpful, while an additional 43.3% (61 participants) reported that Reels significantly boosted their speaking, listening, and comprehension skills. Combined, these responses represent 97.2% of participants, demonstrating how effective Reels can be in fostering essential language competencies. On the other hand, only 2.8% (four participants) felt that Reels did not help improve these skills. This small percentage might be attributed to individual learning preferences or limited use of content specifically tailored to language development. These findings position Instagram Reels as a powerful tool for language learners. By offering engaging, interactive, and context-rich content, Instagram Reels help users strengthen practical communication skills. Their blend of visual, auditory, and contextual elements likely plays a key role in their success in enhancing core language abilities. As for vocabulary acquisition, the data suggests that Instagram Reels are highly effective in helping participants learn new vocabulary, idioms, and expressions. More than half of the respondents (52.5%, or 74 out of 141) stated that Reels were somewhat helpful, while an additional 41.1% (58 participants) found them to be very effective. Together, these groups make up 93.6% of the participants, highlighting Instagram Reels as an engaging and practical tool for language learning. A small portion of respondents found Instagram Reels less useful, with 3.5% (five participants) saying they had little impact and 2.8% (four participants) expressing uncertainty about their effectiveness. These findings might reflect differences in personal learning styles or variations in the quality of the content available on the platform.

The questionnaire also asked students about their learning strategies for using Instagram for language learning. The results indicate that interacting with native speakers is the most prevalent strategy participants utilise for language learning, representing 70.5% (86 and 17 mentions). This highlights the platform's ability to facilitate authentic communication and meaningful engagement with native speakers, a vital aspect of language acquisition. Other strategies include engaging with language-related content, such as tutorials and language challenges, with 21.2% (31 mentions) recognising these activities as helpful supplementary methods. On the other hand, joining language learning communities or groups is less common, accounting for just 6.8% (10 mentions), while using hashtags to discover relevant content is the least frequent activity, making up only 1.4% (2 mentions). These insights suggest that Instagram is mainly valued as a platform for real-time interaction and practical exposure to a target language, with tutorials and similar content playing a secondary role.

4. Benefits of using Instagram for GFL acquisition: The data on Instagram's perceived benefits for GFL learning highlights several key advantages. Among the most commonly mentioned are access to diverse language learning resources and visual aids, which help with vocabulary acquisition, each cited by 24.7% of respondents (36 mentions). This indicates that learners highly value Instagram's dynamic and visually appealing content for enhancing their language studies. Another significant benefit is the opportunity to communicate with native speakers, as noted by 23.3% of respondents (34 mentions). This underscores the platform's role in enabling authentic, real-world interactions critical for language development. Additionally, 14.4% of respondents (21 mentions) pointed to the motivation and inspiration they gain from other language learners, emphasising Instagram's ability to foster community and encouragement. While slightly less frequent, exposure to authentic language use was cited by 13.0% (19 mentions), reflecting the value of encountering practical, real-world language on the platform.

The results also showed that students' perceptions of Instagram Reels in learning GFL reveal highly positive feedback. A significant portion of participants (61.7%, or 87 out of 141) said that Instagram Reels helped them learn a new language to some degree, while another 35.5% (50 participants) found them extremely helpful. These numbers show that 97.2% of participants considered Instagram Reels a valuable tool for language learning, highlighting their ability to make the process easier and more enjoyable. However, 2.8% of respondents (four participants) found Instagram Reels unhelpful. This suggests that while the platform is highly effective for most, it may not align with everyone's learning style, objectives, or level of engagement with the content. Overall, the findings underscore Instagram Reels as a widely appreciated resource for foreign language learning. By blending visual appeal with concise, targeted content, Instagram Reels enhance both accessibility and information retention. Their versatility makes them a great supplement to traditional learning methods and other digital tools.

At the psychological level, the data on Instagram Reels' impact on motivation and willingness to communicate in a foreign language shows that most participants found them beneficial. The most frequent response, chosen by 51.8% (73 out of 141 participants), was "Yes, to some extent," while another 43.3% (61 participants) stated that Instagram Reels significantly boosted their motivation. These responses represent 95.1% of the sample, illustrating that Instagram Reels effectively inspire learners and build their confidence in using a foreign language. Only 5.0% (seven participants) reported no change in their motivation, indicating that while the feature resonates with the majority, it may not

suit everyone due to differences in learning styles or preferences. These findings underscore Instagram Reels as a valuable tool for enhancing motivation and encouraging active communication, a key aspect of language learning. The platform's interactive and dynamic nature likely contributes to this increased willingness to engage.

As for the question of how Instagram Reels assist learners of GFL in using and applying vocabulary in its correct contextual use, the findings reveal that Instagram Reels had a largely positive impact on participants' ability to use and apply vocabulary in the correct context. Most participants, 53.9% (76 out of 141), reported that Instagram Reels were somewhat helpful, while an additional 36.9% (52 participants) said Instagram Reels were highly effective in this area. Together, these responses make up 90.8% of participants, highlighting the value of Instagram Reels in teaching vocabulary through meaningful and practical contexts. A smaller percentage of participants felt Instagram Reels were less impactful, with 4.3% (six participants) indicating minimal influence and 5.0% (seven participants) expressing uncertainty ("I do not know"). These responses may reflect differences in how learners engage with content focused on contextual vocabulary or the variety of content they accessed. The results suggest that Instagram Reels significantly improve learners' ability to apply vocabulary in real-world situations. By delivering vocabulary in visually engaging and context-rich formats, Instagram Reels effectively connect theoretical knowledge with practical use.

In response to the question about whether Instagram-based learning might replace traditional methods of learning, the findings reveal diverse opinions. The largest group, comprising 43.3% (61 out of 141 participants), believes Instagram Reels can partially replace traditional methods. This reflects an acknowledgement of their value as a complementary learning tool rather than a complete substitute. On the other hand, 35.5% (50 participants) stated that Instagram Reels cannot replace traditional methods, indicating a strong belief in the importance of structured, teacher-led instruction and formal learning environments. Meanwhile, 21.3% (30 participants) felt that Instagram Reels could significantly replace traditional methods, suggesting that some learners view the platform as an innovative and effective alternative for language learning. These results highlight Instagram Reels' potential as a supplemental resource to enhance traditional methods, rather than replace them outright. While the platform's engaging and dynamic features are appreciated, the findings emphasise the importance of a balanced approach that blends the interactive nature of Reels with the structure and depth provided by traditional educational methods.

5. The challenges or limitations of using Instagram for language learning: Analysing the challenges and limitations of using Instagram for language learning highlights several key obstacles. The most commonly mentioned issue was the lack of interaction with native speakers, reported by 39.3% of respondents (57 out of 145 participants). This points to a prevalent drawback of using Instagram as a language-learning tool, as many learners desire more structured and authentic communication opportunities. Another significant challenge was locating high-quality language learning content, cited by 33.1% (48 participants). This illustrates the inconsistent quality of educational resources on Instagram and underscores the need for better curation and discovery features. 20.0% (29 participants) noted distractions from non-language learning content, highlighting the risk of Instagram's varied content drawing users away from their learning objectives. 6.2% (9 participants) raised privacy concerns, indicating that some users may feel uncomfortable engaging or sharing on the platform due to security or

privacy-related fears. Lastly, 1.4% (2 participants) mentioned that the absence of a well-structured and organised learning programme hindered their progress, reflecting Instagram's inherently informal nature. While Instagram provides various advantages for language learning, addressing these barriers, such as improving content curation, creating structured learning pathways, and enhancing opportunities for interaction with native speakers, could significantly boost its effectiveness as a tool for language education.

What is also challenging to learners of GFL is trusting the educational content of reels on Instagram. The findings on how participants perceive the trustworthiness of educational content on Instagram Reels compared to their teachers' knowledge show a range of opinions. The largest group, 39.7% (56 out of 141 participants), reported that they somewhat trust Instagram Reels, reflecting a moderate confidence level in the platform's content. Another 27.7% (39 participants) said their trust in Instagram Reels depends on the teacher, indicating that Instagram's credibility is often judged in relation to the expertise and teaching style of educators. On the other hand, 24.8% (35 participants) outright dismissed the idea that Instagram Reels could be more reliable than their teachers, demonstrating a strong belief in the superiority of traditional, teacher-led education. A smaller group, 7.8% (11 participants), shared that they trust Instagram Reels significantly more than their teachers, which could suggest that they find Instagram's content more accessible, relatable, or effective in some instances. These results highlight a complex view of Instagram as a learning tool. While many participants see value in the platform, trust in its content is often conditional and seen as complementary rather than a replacement for traditional teaching. This points to the need to maintain high-quality, reliable educational content on Instagram to support better and enhance teacher-led learning methods.

4.2 The experimental data

This section presents the study's findings, focusing on evaluating the effectiveness of using Instagram Reels to enhance German vocabulary acquisition among students at the University of Jordan. The analysis addresses the primary research question: *Are there statistically significant differences at the ($\alpha = 0.05$) level between the mean scores of students in the control and experimental groups in German vocabulary usage attributed to the teaching method (traditional vs. Instagram-based)?* The arithmetic means and standard deviations of the pre- and post-test scores for both groups were calculated to answer this question.

Table 1. Statistical results of pre- and post-test scores on German vocabulary usage

Group	N	Pre-Test		Post-Test	
		Mean	Std	Mean	Std
Control	41	8.39	2.98	7.76	2.89
Experimental	40	9.60	2.56	13.33	1.72
Total	81	8.99	2.83	10.51	3.67

Table 1 provides a summary of the descriptive statistics for the control and experimental groups' performance on the pre-test and post-test. On the pre-test, the control group had an average score of 8.39 (SD = 2.98), while the experimental group scored

slightly higher, with a mean of 9.60 (SD = 2.56). This shows a slight initial difference in proficiency between the groups. However, the post-test results revealed a notable gap in performance. The control group, which used traditional teaching methods, scored an average of 7.76 (SD = 2.89) on the post-test, slightly dropping compared to their pre-test scores. Meanwhile, the experimental group, taught using Instagram-based methods, saw significant improvement, with a mean score of 13.33 (SD = 1.72). These findings suggest that traditional teaching methods may not be as effective in sustaining or improving vocabulary learning, whereas using Instagram for instruction greatly enhanced students' performance. The apparent difference in mean scores between the two groups highlights the potential of incorporating social media platforms into language teaching strategies for better results. The table reveals noticeable differences in the mean scores of the two groups. The control group, which was taught using traditional methods, achieved a mean post-test score of 7.76. In contrast, the experimental group, which was taught using Instagram, scored significantly higher, with a mean of 13.33. To verify the statistical significance of these differences, an ANCOVA analysis was conducted, as shown below:

Table 2. ANCOVA results for differences in German vocabulary scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Vocabulary Test	214.471	1	214.471	71.532	0.000*	0.478
Group	454.686	1	454.686	151.649	0.000*	0.660
Error	233.865	78	2.998			
Corrected Total	1076.247	80				

Note: *Significant at the 0.05 level.

To determine whether the differences between the two groups were statistically significant, an Analysis of Covariance (ANCOVA) was performed. The results, summarised in Table 2, show a highly significant difference in post-test scores between the control and experimental groups. The significant F value for the vocabulary test variable ($F = 71.532$, $p < 0.001$) demonstrates that the vocabulary test had a substantial impact on the outcome, explaining 47.8% of the variance ($\eta^2 = 0.478$). Similarly, the group variable had also shown a significant effect ($F = 151.649$, $p < 0.001$), the F value indicates a highly significant difference between the groups, with the p-value being below the significance level of $\alpha = 0.05$. This confirms that the differences in post-test scores were not due to chance but were directly related to the teaching method employed. The effect size, measured by Partial Eta Squared ($\eta^2 = 0.660$), is imposing. This indicates that 66.6% of the variation in post-test scores can be attributed to the teaching method. Such a large effect size highlights the practical significance of the findings, showing that using Instagram as an educational tool not only leads to statistically significant results but also holds real-world value for teaching. To further clarify the direction of these differences, adjusted post-test means and standard errors were calculated.

Table 3. Adjusted post-test means and standard error

Group	Mean	Std. Error
Control	8.11	0.27
Experimental	12.96	0.28

Table 3 presents adjusted post-test means and standard errors by group, providing further insights by accounting for any initial differences in pre-test scores. For the control group, the adjusted mean score is 8.11 (SE = 0.27), while the experimental group achieved a much higher adjusted mean score of 12.96 (SE = 0.28). These adjusted scores further support the earlier findings, with the experimental group significantly outperforming the control group. The difference between these adjusted means underscores the effectiveness of Instagram as a teaching tool. The experimental group's adjusted mean score is nearly 60% higher than that of the control group, demonstrating the potential of Instagram-based teaching to drive meaningful improvements in vocabulary acquisition. These findings are consistent with previous studies that highlight the advantages of using technology and social media in education to boost student engagement and learning outcomes. These results confirm that the experimental group outperformed the control group, highlighting the effectiveness of Instagram as a teaching tool for improving German vocabulary.

4.3 Normality and reliability analysis

Table 4. Normality test (Shapiro-Wilk)

Shapiro-Wilk		
Statistic	Df	Sig.
0.973	81	0.081

The Shapiro-Wilk test result ($p = 0.081$) in Table 4 indicates that the data are normally distributed, as the significance level exceeds the 0.05 threshold.

4.4 Reliability test (Cronbach's alpha)

The reliability of the German vocabulary test, assessed using Cronbach's alpha, was found to be 0.82. According to Nunnally and Bernstein (1994, pp. 264–265), a value above 0.70 is considered acceptable, indicating that the test demonstrates a high level of reliability and consistency suitable for field application.

The validity of the statistical tests used in this study depends on meeting certain assumptions, including the normality of the data distribution. To check this, the Shapiro-Wilk test was performed. With a result of $p = 0.081$, the data were found to be generally distributed since the significance level is above the 0.05 threshold. This confirms that the normality assumption was met, ensuring the ANCOVA analysis is robust and the study's conclusions are reliable. The reliability of the German vocabulary test was also evaluated using Cronbach's alpha. The reliability coefficient ($\alpha = 0.82$) is well above the widely accepted threshold of 0.70, as outlined by Nunnally and Bernstein (1994). This high score demonstrates that the test items consistently measure German vocabulary proficiency, making it a reliable instrument for this study. By satisfying both the normality and reliability requirements, the study demonstrates intense methodological rigour, giving greater confidence in the validity of its findings.

The findings of this study carry important implications for teaching strategies, especially in language learning. The significant improvement seen in the experimental group highlights Instagram's potential as a teaching tool. With its interactive and visually engaging features, Instagram allows educators to create a more dynamic and

immersive learning experience, encouraging active participation and engagement. This is particularly important for vocabulary acquisition, where repeated exposure and meaningful interaction with new words are essential for retention and mastery. In contrast, the traditional teaching methods employed with the control group, while foundational, appear less effective in driving substantial vocabulary growth. The slight drop in the control group's post-test mean score suggests that conventional approaches may lack the interactive and motivational elements necessary to keep students engaged. These results underscore the importance of adopting innovative teaching methods that resonate with today's students' digital preferences and learning styles.

5 DISCUSSION

This study highlights the potential of Instagram's Reels feature as a powerful tool for learning German vocabulary. It examines the findings through vocabulary acquisition theories and research on the influence of social media in language learning. By connecting the results with established research, the discussion aims to provide a deeper understanding of how Instagram Reels work as an educational tool and what challenges might come with using them. Learning vocabulary is a complex process influenced by repeated exposure, meaningful engagement, and learning words in context. According to Nation [22], successful vocabulary learning occurs when learners encounter words in different contexts, think deeply about their meanings, and have the opportunity to use them actively. Instagram Reels, with their engaging and interactive format, support these principles by offering rich, multimodal ways to expose learners to and practise new vocabulary. The study showed that learners who used Instagram Reels performed better on post-tests compared to those who did not, which highlights the platform's effectiveness in supporting key aspects of vocabulary learning. For practical classroom integration, educators can embed Instagram Reels into task-based learning activities. For example, students might be assigned to follow educational Instagram accounts focused on German language learning and select a Reel each week to summarise in German during class. Alternatively, teachers can use Reels as warm-up tasks, asking students to identify new vocabulary, idiomatic expressions, or cultural references in the videos and then use them in context through peer dialogues or short role-plays. Another classroom activity involves group-based discussions where learners evaluate the accuracy and usefulness of selected Reels, fostering both language awareness and digital literacy. These approaches not only enhance vocabulary acquisition but also support learner autonomy, peer collaboration, and contextualised language use.

Instagram Reels also leverage Paivio's [12] dual coding theory, which suggests that combining verbal and visual information makes it easier to remember and recall new concepts. Reels integrate visuals, captions, and audio to create a multi-sensory learning experience that helps learners store new words in their long-term memory. For instance, a Reel showing a German speaker shopping at a market does not just introduce relevant vocabulary—it also shows the words being used in a culturally and contextually meaningful way. This combination of language and real-life context helps learners process the information more deeply, making it easier to retain. The study also supports the input hypothesis [23], which proposes that language acquisition happens when learners are exposed to material just slightly beyond their current proficiency level ($i + 1$). Instagram's wide range of content makes it easy for learners to find material that's challenging but still understandable,

creating ideal conditions for picking up new vocabulary. Participants in the study favoured content focused on everyday language, further proving Instagram's ability to provide meaningful, real-world input that builds practical communication skills. The success of the experimental group can also be attributed to the interactive functions embedded within Instagram Reels. By enabling learners to comment, ask questions, and engage with both peers and native speakers, Reels foster a form of social learning that mirrors classroom dialogue but in a mobile, informal context. This aligns with Vygotsky's [20] sociocultural theory, which emphasises interaction as a catalyst for cognitive development. Moreover, these interactive engagements provide learners with immediate exposure to contextualised language use, offering opportunities to negotiate meaning, clarify doubts, and observe authentic discourse practices—thereby reinforcing vocabulary retention and real-world applicability.

Some well-known mobile learning apps, such as Duolingo and Quizlet, have also become increasingly popular for language acquisition due to their accessibility, adaptability, and motivational features. Hsieh and Liao [24] note that these dedicated educational apps are specifically designed for language learning with a gamified approach. Van Pham and Pham [25] and Şendurur [26] indicate that high user engagement is maintained through gamification, daily notifications, and a communal atmosphere fostered by social forums. A structured reward system is implemented to ensure sustained motivation. Such apps follow a systematic curriculum that enables learners to improve their language skills incrementally while receiving prompt feedback. They also provide progress-tracking features, which enable learners to assess their language learning progress. However, Gajda [27] points out that these apps primarily focus on vocabulary acquisition and reading proficiency, providing limited support for writing and speaking skills.

Although structured applications offer a distinct learning trail, other platforms like TikTok language-learning communities or Instagram enable users to interact with content at their own pace, thanks to their adaptability. The highly interactive content keeps users engaged, making it effective for capturing interest. Their interactive and social features make learning more engaging and collaborative. However, constant social interaction can sometimes be a distraction for learners and might make it harder to sustain long-term educational engagement. While Instagram Reels offer promising potential for vocabulary acquisition, scalability across diverse educational contexts requires careful consideration. In low-resource settings, limited access to smartphones, stable internet connections, or data plans may hinder learners' ability to engage with Instagram Reels consistently. These disparities raise equity concerns, particularly in public or rural education systems. To address this, institutions could provide offline access to curated Reels through screen recordings or integrate similar video-based tasks using locally stored content. In blended learning environments, educators can also facilitate in-class sharing of Instagram content through teacher devices and projectors. Ensuring that such tools do not widen the digital divide is essential; therefore, pedagogical integration must be paired with infrastructure support and flexible delivery models that accommodate varying levels of technological access.

Like Instagram, TikTok's content is developed by content creators, which varies in quality and often lacks the structured learning pathways needed for language acquisition, as found in other educational apps that feature content created by language experts. The absence of a structured curriculum may hinder systematic language learning, leading to inconsistencies in accuracy due to the diverse levels of the provided content, ranging from professional to amateur. Timmi [28] explains that this makes such platforms more suitable as supplementary tools that offer informal

learning rather than primary learning resources. They could increase learners' exposure to authentic language use and cultural insights, which are often missing in structured applications.

In recent years, social media has gained recognition as a valuable tool for learning new languages, thanks to its interactive and collaborative features. Instagram, in particular, stands out for its visually engaging interface and variety of user-generated content [3]. The results of this study align with earlier research, showing Instagram's unique ability to create a fun, learner-centred environment that boosts motivation and keeps users engaged. Motivation and engagement are crucial for successful language learning, and Instagram's interactive features play a significant role in fostering these. As Ebadi [13] observed, social media platforms that encourage users to actively participate—by liking, commenting, and sharing—help sustain interest and motivation. In this study, the experimental group's stronger vocabulary results were partly thanks to the motivational boost that Instagram's features provided. Tools like hashtags and geotags allowed learners to explore content tailored to their specific interests, making the learning process more personal and increasing intrinsic motivation.

Instagram also fosters a sense of community and encourages social interactions, which ties into Vygotsky's [20] socio-cultural theory of learning. This theory emphasises how social context and collaboration shape cognitive development. Participants in the study reported interacting with native speakers and language influencers, showing how the platform provides authentic opportunities for communication. These interactions help reinforce vocabulary acquisition and show learners how to use the words in real-life situations. Instagram's blend of text, visuals, and audio fits perfectly with the principles of multiliteracies pedagogy [29], which emphasises the importance of using diverse forms of representation in learning [30]. By presenting vocabulary through Reels that combine spoken language with visual and non-verbal cues, Instagram enables learners to engage with language in context, going beyond basic memorisation. This is especially useful for vocabulary acquisition, where it is not just about knowing what words mean but also understanding their cultural and practical nuances.

The findings of this study also support Berti's [18] idea that Instagram offers valuable opportunities for sociolinguistic learning by exposing learners to authentic cultural practices. The experimental group's improved ability to use vocabulary in context demonstrates how Instagram helps bridge the gap between knowing a word theoretically and using it effectively in real-life situations. By immersing learners in real-world scenarios, Instagram equips them to communicate more confidently across diverse contexts—an essential skill in learning a new language. While Instagram shows great potential as a language learning tool, the study also highlights some challenges and limitations. One major issue is the inconsistent quality of user-generated content. Unlike traditional learning materials, which are carefully reviewed for accuracy and educational value, Instagram posts can vary widely in reliability. This means learners need strong digital literacy skills to critically assess and choose high-quality resources [7].

Another significant challenge is the potential for distractions from non-educational content. Participants pointed out that Instagram's dual purpose as a platform for both entertainment and education can sometimes pull focus away from learning objectives. This mirrors earlier research [21], which stresses the importance of creating structured guidelines to help learners stay focused and maximise the educational potential of Instagram. Another challenge to Instagram's widespread adoption in formal language education is the lack of structured methods for integrating it into

traditional curricula. Educators face the challenge of balancing Instagram's informal, user-driven approach with the structured requirements of institutional language programmes. Future research could focus on developing best practices for creating instructional frameworks that make the most of Instagram's strengths while maintaining academic rigour.

The findings offer valuable insights for language educators and curriculum designers. First, the notable vocabulary improvements observed in the experimental group suggest that incorporating Instagram into language instruction can significantly boost learning outcomes. For example, educators could create activities that integrate Instagram Reels into the classroom, like vocabulary scavenger hunts, collaborative storytelling, or writing captions for posts. These activities could tap into Instagram's interactive features, encouraging active participation and contextual learning. Second, the study emphasises the importance of teaching digital literacy. Educators should guide learners on how to assess the reliability of Instagram content, choose quality resources, and manage potential distractions. With these skills, learners can make the most of Instagram's educational benefits while avoiding its pitfalls. Finally, the study highlights the need for further research on Instagram's long-term impact on language learning. While this study focused on vocabulary acquisition, future studies could explore how Instagram affects other areas, such as grammar, pronunciation, or intercultural communication. Additionally, longitudinal studies could examine how consistent use of Instagram contributes to language development over time.

To systematically implement Instagram Reels into formal language curricula, educators can embed them into task-based learning modules. For example, students can be asked to follow curated educational Instagram accounts and complete weekly tasks such as vocabulary scavenger hunts, caption-writing activities, or reflective journal entries based on selected Reels. Teachers might assign guided Instagram tasks that require learners to analyse specific language forms, idiomatic expressions, or cultural references presented in short videos. These tasks can be integrated into lesson plans as pre-class assignments (flipped learning), in-class engagement activities, or post-lesson reflections. Additionally, educators can develop rubrics to assess participation and learning outcomes, such as vocabulary acquisition, contextual usage, and communicative competence demonstrated in follow-up discussions or presentations. Despite these benefits, challenges must be addressed to maximise the effectiveness of Instagram-based learning. One primary concern is the distraction risk posed by the platform's entertainment-orientated content, which can detract from focused learning. Another challenge is the inconsistent quality of user-generated materials, which may lack pedagogical rigour or linguistic accuracy. To mitigate these issues, educators can provide students with pre-vetted content lists or recommend reliable accounts that align with course objectives. Teacher monitoring can also be employed, where learners periodically submit screenshots or summaries of their viewing activity to ensure engagement with appropriate material. Furthermore, digital literacy workshops can be integrated into the curriculum to train learners in critically evaluating online content, managing screen time, and navigating social media responsibly in educational contexts.

6 CONCLUSION

This study adds to the growing body of research on social media in language education by offering empirical evidence of Instagram's effectiveness in helping learners acquire German vocabulary. By connecting the findings to established

theories of language learning, it sheds light on why Instagram is effective and how it could reshape traditional language teaching. While challenges remain, the study underscores the need for innovative, technology-driven approaches that align with the preferences and habits of today's digital learners. Ultimately, Instagram Reels offer an exciting opportunity to create engaging, multimodal, interactive, and context-rich environments that support meaningful language learning. Its mobile accessibility, combined with features that encourage user interaction, such as commenting, sharing, and real-time feedback, positions it as a robust educational tool that aligns well with learner-centred, digitally mediated pedagogies. This study provides strong evidence that Instagram can be an effective tool for enhancing German vocabulary acquisition among students at the University of Jordan. The significant differences in post-test scores, backed by solid statistical analysis, demonstrate Instagram's potential to drive meaningful improvements in vocabulary proficiency. By incorporating social media into language teaching, educators can create more engaging and interactive learning experiences that cater to the preferences and needs of today's students.

These findings have important implications for language educators, curriculum developers, and policymakers. These findings have important implications for language educators, curriculum developers, and policymakers, particularly in guiding the structured incorporation of interactive digital tools like Instagram Reels into formal language instruction. With clear strategies and proper safeguards, such tools can be harnessed effectively to enrich vocabulary learning and digital engagement in the classroom. They highlight the importance of adopting innovative, technology-driven teaching methods. As education continues to adapt in the digital age, platforms like Instagram present an exciting opportunity to improve learning outcomes and prepare students to thrive in an increasingly connected world. From a pedagogical standpoint, the integration of Instagram Reels can be translated into weekly classroom routines. For instance, instructors may assign learners to present short oral summaries of Reels in the target language, simulating mini-presentations that practise speaking fluency. Alternatively, group-based Reel reviews—where students critique the educational quality and language use of different Reels—can promote critical thinking and peer collaboration. Embedding these tasks into formative assessment also helps teachers gauge vocabulary uptake and contextual understanding over time. To enhance practical classroom integration, educators can design scaffolded tasks involving Instagram Reels. For example, students can be assigned to create their own Reels that showcase specific German vocabulary words or expressions in context, such as simulating shopping, ordering food, or asking for directions. This task combines vocabulary usage with performance-based learning and allows for peer feedback through in-class viewing and discussion. Another classroom activity involves a weekly “Reel Reflection”, where students watch a selected Reel and write a short paragraph in German using five new words or expressions they learned from the video. Teachers can also organise vocabulary challenges where learners find Reels related to a specific theme (e.g., travel, cooking) and present the vocabulary used in class, supporting collaborative learning and contextual reinforcement. These examples provide teachers with replicable practices that make Instagram Reels a meaningful, structured part of formal language education.

While the findings of this study are certainly compelling, it is important to recognise a few limitations. First, the study involved a relatively small sample size, which may limit the generalisability of the results. Future research should aim to replicate this study with larger and more diverse samples to confirm the findings and make them applicable to a broader range of contexts. Second, this study focused solely on

German vocabulary acquisition, which is just one component of language learning. Future studies could examine how Instagram-based teaching methods work in other areas of language proficiency, like grammar, speaking, or writing. Additionally, longitudinal studies would be valuable in understanding the long-term effects of using Instagram as a teaching tool and its overall impact on language competence. Finally, while the study demonstrated that Instagram-based teaching is effective, it did not explore which specific features or activities within Instagram contributed to the observed improvements. Future research could dig deeper into what makes Instagram successful as an educational platform. For instance, studies could identify the types of content, interactions, or instructional designs that are most effective in enhancing language learning outcomes.

7 DATA AVAILABILITY

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

8 COMPETING INTERESTS

The authors declare no competing interests.

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