

## PAPER

# Social Networks as Technology-Enhanced Learning Environments for Second Language Teaching in Higher Education

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## ABSTRACT

In the post-pandemic era, the *Digital 2023 Report* highlights a rapid expansion in the global user base of social networking sites (SNSs). Despite the lack of formal integration of SNSs in second language (L2) education, which could enhance real-time creation, collaboration, and communication in the target language and culture, L2 learners still actively use these technologies outside of educational settings. This exploratory study utilizes a descriptive survey research design with a purposefully selected sample of 239 undergraduate and graduate students in their first and second years of language studies. These students pursue commonly taught languages, such as Spanish, as well as less commonly taught ones, such as Arabic, Persian, Slavic (Bosnian-Croatian-Serbian, Russian, and Polish), Turkic (Turkish and Uyghur), and Uralic (Estonian, Finnish, and Hungarian), in addition to others, such as Mongolian. The diverse range of languages enables a thorough investigation of the use of SNSs among college-level L2 learners in the United States, including both widely taught and less commonly taught languages. The findings of this study show that the target age group exhibits distinct preferences in their choice of social platforms for personal use compared to those used in L2 classrooms. Furthermore, the outcomes underscore the significant impact of age, gender, and the method of course delivery on the usage patterns of social networking sites.

## KEYWORDS

computer assisted language learning, second language teaching, social networks

## 1 INTRODUCTION

Higher education around the globe swiftly transitioned to “emergency remote teaching” [1] in response to the global pandemic in 2020. This has forced universities to quickly transform their traditional face-to-face classes into remote learning environments starting in 2020, earlier than anticipated [2]. This sudden shift from traditional classroom teaching to emergency remote teaching will expand online

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education in the years ahead [3] and pave the way for more online degree programs. In 2018, approximately seven million college students enrolled in at least one online course [4]. In 2020, the authors of this study estimated that out of the 19.7 million college students, 14 million were enrolled in a primarily online, fully online, hybrid learning mode, based on the enrollment numbers provided by the reporting colleges [4]. Upon analyzing two separate data sets and examining the colleges that reported their primary mode of instruction as online, fully online, or hybrid, the authors make the assumption that every college student in the U.S. is enrolled in at least one online course.

Previous research conducted a survey of 3,089 college students from across North America during emergency remote instruction in spring 2020. The results showed that 78% of the students reported finding their online experience unengaging, 53% reported not having regular access to their professors, and 69% reported a lack of engagement with their peers [5]. These findings have been confirmed by another nationwide research study, which identified similar patterns. Additionally, the study revealed that courses suffered from a lack of cultural content after transitioning online [6]. Since the end of the spring 2020 semester, colleges and instructors have made significant improvements in their approach to online teaching, starting with the fall 2020 semester. They have been since better prepared and have utilized active learning and higher-quality online teaching methods. In fact, students have reported that their instructors have prioritized human connection and used active online strategies such as promoting class discussions (60%), encouraging collaborative work (53%), and making an effort to create online communities [7]. However, 76% of the students still point out a lack of in-class experience, 48% still report not having regular access to their professors, and 65% mention a lack of engagement with their peers [4, 7]. The same report also highlights that when students have access to tools that allow them to stay connected with their instructors and peers outside the classroom, they exhibit higher levels of motivation and engagement compared to their peers. As a result, there is a strong relationship between higher-level student engagement with the course and positive course evaluations [6]. Finally, the majority of the respondents also indicate that their preferred tool for online learning is their smartphones.

In the post-pandemic era, online education is estimated to be more than just a temporary solution. It is expected to expand significantly as the next generation of education and innovative technologies transition from fully residential courses to blended learning. Many believe that this shift will invigorate college education for future generations of students as it becomes increasingly associated with digital lifestyles [8, p. 9]. In order to optimize the success of academic programs, increase the value of learning, facilitate active participation by students, and effectively utilize digital tools, online course developers and instructors need to be aware of the needs and preferences of the new generation of college learners. It is therefore necessary to thoroughly analyze students' prior online learning experiences, course expectations, interests, and perceptions towards online education and potential digital platforms. Data-driven research findings about these areas and how to support students' effective course integration need to be shared with instructors and, consequently, implemented in classrooms.

In today's technology-driven world, the integration of digital tools into second language education is crucial. These tools offer a wide range of benefits that greatly enhance the learning experience. To begin with, digital tools provide learners with authentic and immersive environments, enabling them to interact with real-world content through various social media platforms and virtual exchange initiatives [9].

This engagement also empowers learners to extend their language learning journey beyond the classroom, bridging the gap between in-class and out-of-class learning [10]. These avenues not only facilitate interaction but also foster collaboration among learners from diverse backgrounds, promoting cross-cultural exchange regardless of geographical constraints [9, 11]. Furthermore, online and personalized technology-enhanced models and platforms offer customized language learning experiences, especially in higher education [12, 13]. By customizing learning experiences to cater to the specific needs, learning paces, and personal preferences of individual language learners, these digital adaptations cultivate a learning process that is both motivating and engaging.

## 2 SOCIAL NETWORKING SITES AND THEIR ROLE IN EDUCATION

### 2.1 Social networking sites

Social networking is a part of Web 2.0 technologies, which have transformed traditional internet users (Web 1.0) from mere content consumers to active content contributors and producers [14]. Users create and share media resources and information with others, thus facilitating a boundary-less connection among people and groups [15] through internet-based social media platforms such as Facebook, YouTube, Instagram, and Twitter.

The increased use of mobile devices and the development of associated infrastructure have paved the way for greater accessibility and significant growth of social networking technologies in the last decade [16]. With the world gradually emerging from the COVID-19 pandemic since 2020, the *Digital 2023 Report* shows rapid growth in the SNS user base worldwide [17]. In fact, with the world population reaching 8.1 billion at the start of 2023, there are now 5.16 billion internet users, with 4.8 billion actively using social technologies. Additionally, 92.3% of users access their accounts via their smartphones [17]. Substantial differences in SNS users by age are apparent. 31.9% of SNS users are below the age of 24, and 32.2% are between 25 and 34 years old. With almost 60 percent of the world's population as active users, these technologies have rapidly evolved from platforms for casual socialization and entertainment [18] to tools used by NGOs for engaging in fundraising and soliciting donations. The technologies support networking, recruitment, and hiring platforms [19]. Furthermore, Internet technologies disseminate news, increase business profits, and promote institutional visibility, thus keeping people informed and engaged in government activities [20].

### 2.2 Educational affordances of SNSs in second language education

Educational affordances, in this paper, are defined as “opportunities for an educational activity that are determined and supported by perceived and actual features of a tool or an environment” [21, p. 4]. SNSs have become fundamental to how billions of people connect and stay informed every day [22]. Correspondingly, SNSs represent an integral part of how the younger generation engages with technology in their personal lives, even when they come to school [17, 23]. The use of SNSs as educational tools has become increasingly important among educational researchers as well. These platforms have already demonstrated an unprecedented capacity to form communities, engage people globally, and foster unparalleled collaborations among learners.

Despite the growing global interest in SNSs and the increasing amount of empirical research in mainstream higher education on the educational benefits of user-generated learning content [24, 25, 26, 27] and the desire to explore “the potential role for social media as a facilitator and enhancer of learning” [25, p. 60], their use in educational settings is still limited [26, p. 2]. Despite the limited incorporation of SNSs in second language learning [28], as well as other advanced technological methods that allow students to actively engage in real-time communication, collaboration, and creation in the target language and culture, second language (L2) learners continue to utilize these technologies in their everyday lives outside of school. In fact, L2 learners have been demonstrated to have access to a wide variety of authentic L2 usage and discourse contexts today, both in and out of the classroom. They also display a diverse range of literacies, experiences, and attitudes towards technology. As a result, they require autonomous learning skills to guide their own learning, especially when engaging in L2 learning activities outside of the teacher’s supervision [28, p. 235].

However, there is still a lack of theoretical and empirical research studies examining the ways to effectively use different social technologies in second language instructional settings [29, 30, 31, 32, 33, 34, 35, 36, 37, 38], particularly in languages other than English [39, 40]. In fact, the field of computer-assisted language learning (CALL) “has only just begun exploring the numerous language opportunities associated with social media” [28, p. 236].

Among the few empirical studies published on integrating SNSs in L2 pedagogical design, the focus has been the development of communicative competence [41], socio-pragmatic awareness [42], and skills [43] among L2 learners of various languages, most notably French, German, Spanish, and Korean [44, 45]. For example, Blattner and Fiori’s [42] study found an increase in the multi-literacies, L2 socio-pragmatic awareness, and competence of undergraduate Spanish L2 learners when they observed and reflected on selected expert/native users’ Twitters over the course of a semester. Their findings reveal that using SNSs potentially provides a gateway for L2 learners to authentically interact with speakers of the target language. This conclusion was also reached in a recent study involving German and Japanese L2 learners [46]. Previous research also demonstrates how SNSs could support the sense of presence and foster a strong community among Italian and French L2 learners that extends beyond the classroom [29, 44]. Additionally, SNSs have been found to promote language learner autonomy and lifelong learning among learners of both more and less commonly taught languages [38].

### 3 PURPOSE OF THE STUDY

Recognizing the lack of research on innovative language technologies as well as the limited involvement of L2 researchers in this field, a group of prominent researchers in second language educational technology recently issued a call to computer-assisted language learning (CALL) researchers and practitioners. They urged them to explore technological tools, learners’ and instructors’ preferences, and delivery methods [35, 37]. The call highlighted the need for additional empirical research to describe how L2 learners utilize SNSs for language learning [38]. This research request aligns with the growing need for accountability in education and the demand for evidence- and data-driven research to inform decision-making in higher education [47].

As mentioned earlier, apart from the literature that explores the use of SNSs in the context of English as a second or foreign language, there is very little research on the social networking perceptions and habits of college students studying commonly and less commonly taught second languages on a large scale. The present study addresses the gap in the literature by providing empirical research findings. Before discussing the use of SNSs in hybrid and online language learning contexts and exploring their usability and effectiveness in enhancing educational opportunities in the classroom, it is crucial to address several key issues. These issues can be framed as questions that need to be answered. First, to what extent do students use SNSs in their personal lives as well as in mainstream classes for educational purposes? Secondly, what factors would influence their decisions to use SNSs for L2 learning? Other crucial issues to understand include tuning into students' insights on SNS applications and determining whether social networks can enhance hybrid and online instruction. Do SNSs promote student learning? If so, would this alleviate some of the neglects (such as the lack of regular access to instructors, lack of engagement with peers, and lack of cultural content) pointed out in surveys of college students [5, 6, 7]? More specifically, this exploratory study is guided by the following research questions in order to advance the knowledge of SNSs in the field of second language education:

- RQ1:** How do college students use SNSs in their personal lives?
- RQ2:** How do college students use SNSs in non-language college classes?
- RQ3:** Which SNSs do college students use in their L2 classes, and what are their preferences?
- RQ4:** What are the effects of gender, academic level, and age on second language learners' use of SNSs?
- RQ5:** What is the relationship between students' preferred mode of L2 delivery and their self-perceived usefulness of SNSs in L2 classes?
- RQ6:** What is the relationship between the frequency of technology use in the L2 classroom and the self-perceived usefulness of SNSs in L2 classes?

### 3.1 Data collection and participants

The study utilized a descriptive survey research design and included a purposively selected sample of 239 undergraduate and graduate language students. These students were in their first and second years of studying Spanish, Arabic, and less commonly taught languages such as Arabic, Persian, Slavic (Bosnian-Croatian-Serbian, Russian, and Polish), Turkic (Turkish and Uyghur), and Uralic (Estonian, Finnish, and Hungarian), along with other rarely taught languages such as Mongolian. This diverse sample represented a wide range of languages. 85 (36%) males and 137 (57%) females opted to participate in the study at a large Midwestern public university in the U.S. (17 participants did not respond with their gender). As the study aims to examine the usage of SNS and the perceptions of L2 learners, it is important to note that the majority of SNS users are young. Therefore, the research sample effectively represents this demographic. The age distribution showed that 73% of the participants were aged 18–20 years, 12.1% were aged 21–23 years, 11% were aged 24–27 years, 5% were aged 28–30 years, and 2% were aged 31 years and older. The average age of the sample was 21.3 years.

The data was collected using a questionnaire based on a survey developed by Sadowski et al. [48], titled “University students’ perceptions of SNSs in their educational experiences at a regional Australian university.” This survey measured college students’ self-reported perceptions of SNS use in both their personal and academic lives. Sadowski et al.’s [48] survey had 21 closed-ended and 3 open-ended items. The current research adopted the first five questions from Sadowski et al., as well as including additional items related to the learning of L2. The modified survey consisted of 20 items based on a self-rating scale, divided into four subcategories.

The first subcategory consisted of demographic variables, including age, gender, academic year, language currently studied, and major field of study. The second subcategory included four questions that aimed to determine the language technology used in L2 classrooms. The third category consisted of five questions that assessed the participants’ usage of SNS in their personal lives. These questions focused on the frequency of usage, the names of the most frequently used SNSs, and the reasons for using them. Finally, the fourth category consisted of six questions aimed at gathering data on the frequently used SNS accounts in L2 classrooms, the intention to utilize them, and the perceived potential usefulness of SNSs in language classrooms. The authors employed an offline method to gather survey data in order to boost the survey response rate and provide respondents with an opportunity to ask questions. All of the distributed surveys were completed and returned.

### 3.2 Data analysis

The data was analyzed quantitatively using the SPSS 27 software. The demographic variables (age and academic status) were analyzed using descriptive statistics, which included calculating measures such as the mean, median, mode, and standard deviation. These statistics helped summarize and understand the distribution of these variables within the study sample. T-tests and ANOVA were conducted to assess mean differences among various groups and variables. Specifically, t-tests were used to compare the means of two independent groups in order to determine if there were any significant differences. ANOVA was used to analyze the mean differences among multiple groups and categories, such as academic years or age groups. Frequencies, mean scores, and standard deviations were calculated to examine the distribution of items and assess the homogeneity of the group.

## 4 FINDINGS

This section is organized based on the six research questions that were posed at the end of Section 3.

### 4.1 RQ1: How do college students use SNSs in their personal lives?

To address RQ1, descriptive statistics (Tables 1–3) were utilized to analyze different aspects of college students’ use of SNSs in their personal lives. These factors include account ownership, intensity of use, the most frequently used SNSs, and the purposes behind their engagement with social networking sites.

As shown in Table 1, a significant majority of college students have SNS accounts (95%). Furthermore, Snapchat (28.5%), Instagram (23.8%), YouTube (18.8%), and Twitter (12.1%) ranked as the most used SNSs. Entertainment (82.8%) appears to be the primary motive for using SNS, although a smaller percentage use them to stay in touch with family (7.5%) and friends (6.7%).

**Table 1.** Students' use of SNSs

	n	%
<b>SNS account owner?</b>		
Yes	227	95.0
No	12	5.0
<b>Primary SNS used</b>		
Snapchat	68	28.5
Instagram	57	23.8
YouTube	45	18.8
Twitter	29	12.1
Others	40	16.8
Total	239	100.0
<b>Purpose of use</b>		
Entertainment	198	82.8
Keeping in touch with family	18	7.5
Keeping in touch with friends	16	6.7
Others	3	1.3
No answer	1	0.4
Total	239	100.0

Although the students' habits of using SNS varied, as shown in Table 2, nearly all of the respondents reported using their SNSs every day (98.3%). Among them, 36.8% accessed SNSs multiple times a day, 29.7% used them hourly, and 23.8% accessed SNSs whenever possible. Further, as illustrated in Table 3, 31% of the students reported using SNSs for 2–4 hours a day, 30.1% for 1–2 hours a day, 18.4% for 30–60 minutes a day, and 9.2% spent more than 4 hours a day using social networking sites.

**Table 2.** Frequency of students' use of SNS

SNS Use (number of times/day)	Frequency	%
Once	10	4.2
Twice	9	3.8
A few times	88	36.8
Every hour	71	29.7
Whenever I can	57	23.8
Total	235	98.3
Missing	4	1.7
Total	239	100.0

**Table 3.** Students' use of SNS: Amount of time/day

SNS Use (amount of time/day)	Frequency	%
< 30 min	26	10.9
30–60 min	44	18.4
1–2 hrs/day	72	30.1
2–4 hrs/day	74	31.0
4–6 hrs/day	16	6.7
> 6 hrs/day	6	2.5
Total	238	99.6
Missing	1	0.4
Total	239	100.0

#### 4.2 RQ2: How do college students actively use SNSs in non-language college classes?

RQ2 explored the percentage distribution of SNS utilization within non-language, mainstream classes. The results show that YouTube is the most popular platform, with 47.7% of the students using it the most in their classrooms, as illustrated in Table 4. This is followed by Google+ (8.4%), LinkedIn (6.3%), and Wikipedia (3.8%). However, none of these platforms come close to YouTube in terms of usage rates. Further, and perhaps unsurprisingly, 23% of the respondents did not answer the survey question regarding their current use of SNS in the mainstream classroom. This may suggest that some students either do not use SNSs in the classroom context or lack familiarity with or exposure to SNSs as educational tools.

**Table 4.** Students' use of SNS in non-language classes

	n	%
<b>Most commonly used</b>		
YouTube	114	47.7
Google+	20	8.4
LinkedIn	15	6.3
Wikipedia	9	3.8
Instagram	7	2.9
Other	19	7.9
No answer	55	23.0
Total	239	100.0

#### 4.3 RQ3: Which SNSs do college students use in their second language classes, and what do they want to use?

RQ3 focused on identifying the SNS platforms used by college students in their L2 classes and their preferences for SNS tools in these contexts. The students reported using YouTube the most (49.4%), followed by Google+ (10.9%), and Wikipedia (3.3%). When asked about which SNS tools they would choose to use in L2 classes, YouTube (48.1%)

once again emerged as the top choice. Although Google+ and Wikipedia are also used to some extent in L2 classes, they are not as popular as Twitter (8.8%) and Instagram (4.0%), which were the students' preferred choices after YouTube. Significantly, 31% of the respondents chose not to respond to the question regarding their current use of SNS in L2 classrooms, and 20.9% did not indicate their preferred use of SNS. These results may be attributed to students either not currently utilizing SNSs in L2 classrooms or lacking a specific preference regarding their desired SNS usage (see Table 5).

**Table 5.** Students' use of SNS for second language

	n	%
<b>Use in second language classroom</b>		
YouTube	118	49.4
Google+	74	10.9
Wikipedia	8	3.3
Instagram	5	2.1
Others	8	3.3
No answer	74	31.0
Total	239	100.0
<b>Desired SNS use in second language classrooms</b>		
YouTube	115	48.1
Twitter	21	8.8
Instagram	10	4.0
Pinterest	8	3.3
Reddit	8	3.3
Google+	8	3.3
Others	19	8.1
No answer	50	20.9
Total	239	100.0

#### 4.4 RQ4: What are the effects of gender, academic level, and age on second language learners' use of SNSs?

The authors conducted an independent-sample t-test to compare the frequency of SNS use per day among L2 students based on gender. The results, summarized in Table 6, indicate that there was a significant difference in the mean scores for female ( $M = 3.8$ ,  $SD = 0.89$ ) and male ( $M = 3.3$ ,  $SD = 1.2$ ) students;  $t(216) = -3.62$ ,  $p = 0.0$ . This suggests that gender has a significant influence on SNS usage frequency.

**Table 6.** SNSs frequency of use and gender

	Gender	N	Mean	SD	t	df	Sig
How many times/ days do you use SNS?	F	135	3.84	0.89	3.62	216	0*
	M	83	3.34	1.17			

Notes: \* $p < 0.01$ ; "How many times/days do you use SNSs" reported as: 1 (once), 2 (Twice), 3 (A few times), 4 (Every hour), 5 (Whenever I can).

Another independent-sample t-test was conducted to compare the daily amount of time spent on SNS among language students, based on gender (Table 7). There was a significant difference in the scores between the female ( $M = 3.3$ ,  $SD = 1.1$ ) and male ( $M = 2.9$ ,  $SD = 1.3$ ) conditions;  $t(219) = -2.19$ ,  $p = 0.03$ . These results once again suggest that gender influences the use of SNS. Specifically, the results suggest that females enrolled in L2 classrooms use SNS more frequently than males in the same classrooms.

**Table 7.** SNSs daily amount of use and gender

	Gender	N	Mean	SD	t	df	Sig
How much time/day do you use SNS?	F	137	3.26	1.13	2.19	219	0.03*
	M	84	2.89	1.3			

Notes: \* $p < 0.05$ ; "How much time/day do you use SNSs" reported as: 1 (< 30 min/day), 2 (30–60 min/day), 3 (1–2 hrs/day), 4 (2–4 hrs/day), 5 (> 6 hrs/day).

A one-way ANOVA comparing the self-reported SNS use and academic year (Table 8) indicated a significant effect of the academic year on the use of SNSs at the  $p < 0.05$  level for the academic year conditions [ $F(4, 233) = 2.83$ ,  $p = 0.025$ ]. Post hoc comparisons using the LSD test indicated the mean score difference between first-year students ( $M = 0.99$ ,  $SD = 0.1$ ) and seniors ( $M = 0.83$ ,  $SD = 0.39$ ) was significant at  $p < 0.05$  (Table 9). Also, post hoc comparisons using the LSD test indicated that the mean score difference between freshman students ( $M = 0.99$ ,  $SD = 0.1$ ) and graduate students ( $M = 0.86$ ,  $SD = 0.36$ ) was significant at  $p < 0.05$  (Table 9). These results suggest that students' academic year has an impact on their reported SNS use. Specifically, the results indicate that first-year students are more inclined to use the SNS and may, to some extent, feel more comfortable with their usage compared to seniors and graduate students.

**Table 8.** SNSs use and academic year

Do You Use SNS? (Y = 1, N = 0)					
Academic Year	N	Mean	SD	F	Sig
Freshman	104	0.99	0.10	2.83	0.025*
Sophomore	79	0.94	0.25		
Junior	22	0.95	0.21		
Senior	12	0.83	0.39		
Graduate	21	0.86	0.36		
Total	238	0.95	0.22		

Note: \* $p < 0.05$ .

**Table 9.** SNSs use comparison by academic year

Academic Year		Mean Difference	Standard Error	Sig
Freshman	Sophomore	0.05	0.03	0.10
	Junior	0.04	0.05	0.48
	Senior	0.16	0.07	0.02*
	Graduate	0.13	0.05	0.01*

Note: \* $p < 0.05$ .

A one-way ANOVA comparing the self-reported SNS use and age conditions (Table 10) showed a significant effect of age on the use of SNSs at the  $p < 0.05$  level for the five age group conditions ( $F(4, 233) = 3.10, p = 0.016$ ). Post hoc comparisons using the LSD test indicated that the mean score difference between students aged 31 years and older ( $M = 2.57, SD = 1.4$ ) and 18–20-year-olds ( $M = 3.72, SD = 1.0$ ), 21–23-year-olds ( $M = 3.61, SD = 1.03$ ), and 24–27-year-olds ( $M = 3.64, SD = 0.67$ ) was significant at  $p < 0.05$  (Table 11). These results suggest that older students exhibit lower use of SNSs compared to younger students, highlighting the impact of age on SNSs use.

**Table 10.** SNSs use and age group

	Age Group	N	Mean	SD	F	Sig
How many times/days do you use SNS?	18–20	189	3.72	1.00	3.1	0.02*
	21–23	23	3.61	1.03		
	24–27	11	3.64	0.67		
	28–30	4	2.75	0.5		
	>= 31	7	2.57	1.40		
	Total	234	3.66	1.02		

Note: \* $p < 0.05$ .

**Table 11.** SNSs use comparison by age group

	Age Group	Mean Difference	Std. Error	Sig
How many times/day do you use SNS?	18–20	–1.15	0.39	0.00*
	21–23	–1.04	0.43	0.02*
	24–27	–1.06	0.48	0.03*
	28–30	–0.18	0.63	0.78

Note: \* $p < 0.05$ .

#### 4.5 RQ5: What is the relationship between students' preferred mode of second language delivery and self-perceived usefulness of SNSs in second classes?

The authors analyzed RQ5 by exploring the relationship between students' preferred mode of L2 delivery and their self-perceived usefulness of SNSs in language classes. A one-way ANOVA was conducted to compare the self-reported usefulness of SNSs in the language classroom and the self-reported preferred classroom delivery methods (Table 12). There was no significant effect of the preferred classroom delivery method on the reported usefulness of SNSs in the language classroom. However, post hoc comparisons using the LSD posttest indicated that the mean score difference between those who preferred fully face-to-face ( $M = 1.36, SD = 0.48$ ) and hybrid mix ( $M = 1.22, SD = 0.46$ ) was statistically significant at  $p < 0.05$  (Table 13). The results suggest that participants who preferred a hybrid delivery method are more likely to believe that SNSs can be helpful in the language classroom compared to those who preferred a fully face-to-face delivery method.

**Table 12.** SNS usefulness and preferred delivery method

		N	Mean	SD	F	Sig
Is SNS helpful in the language classroom? (Yes = 1, No = 2)	Fully Online	6	1.33	0.52	2.3	0.1
	Fully Face-to-Face	138	1.36	0.48		
	Hybrid mix	90	1.22	0.42		
	Total	234	1.30	0.46		

**Table 13.** Preferred delivery method and SNS usefulness

Delivery Method		Mean Difference	Std. Error	Sig
Fully Face-to-Face	Fully On-line	0.03	0.19	0.91
	Hybrid mix	0.11	0.06	0.03*

Note: \* $p < 0.05$ .

#### 4.6 RQ6: What is the relationship between the frequency of technology use in second language in the class and self-perceived usefulness of SNSs in second language classes?

To investigate the correlation between the self-reported frequency of technology use (hours/week) in language classes and students' perceived usefulness of SNSs, the authors conducted a one-way ANOVA (Table 14). The results showed no significant effect of the amount of technology used in their language class on the reported usefulness of SNSs in their language classroom. However, the data indicated that more students believed SNSs would be helpful in the language classroom than those who did not (Table 14).

**Table 14.** Technology use and SNS helpfulness

		Amount of Technology Use	N	Mean	SD	F	Sig
Is SNS helpful in the language classroom? (Yes = 1, No = 2)	Less than 1 hour		73	1.34	0.48	0.62	0.65
	1–2 hours		77	1.34	0.48		
	2–3 hours		45	1.24	0.43		
	3–4 hours		29	1.24	0.44		
	More than 4 hours		9	1.22	0.44		
	Total		233	1.30	0.46		

## 5 DISCUSSION

As the world's population exceeds eight billion in 2023, the average internet user spends seven hours a day online, which is roughly estimated to be 40 percent of their waking lives [49]. The results of the current research thus align with global trends, reflecting the widespread use and intensity of SNSs among L2 students. The study participants, as with many college students in previous research [48, 50, 51, 52], actively engage with digital social technologies, using them both in their personal

lives and as part of their college courses. Currently, there are 4.8 billion active SNS users worldwide, which accounts for over 59.2% of the global population [49]. Specifically, the 16–24 age group spends an average of two hours and seven minutes per day on social platforms, with social media accounting for approximately 34.1% of their total internet usage [49]. These findings align with our research, where the highest reported usage category was 2–4 hours per day (Table 3).

Facebook has been the world's most commonly used SNS, with a global user base of 2.9 billion people. It is followed by YouTube, which has 2.5 billion users, Instagram with 2 billion users, Snapchat with 750 million users, and Twitter with 372.9 million users [49]. Previous studies have emphasized the widespread popularity of Facebook among young adults. This is evident from its overall popularity among users, frequent use among educators, and the preferences of the Millennials, who were previously the youngest generation of adults [53]. The current study suggests, however, that the target age group, Gen Z, displays a different trend in social platform use for their personal lives and the platforms they use in L2 classes. As a result, the majority of the students in the current study consider Snapchat, Instagram, and YouTube as their primary social platforms in their personal lives. They also view YouTube, Twitter, and Instagram as the SNSs they prefer to use in L2 classes (refer to Tables 1 and 5).

The findings of this study are consistent with recent global digital data reports and surveys that compare the use of digital platforms among different age groups. These reports note that Facebook has lost appeal among Gen Z but remains popular with older generations. Additionally, there has been a substantial increase in the use of image-led platforms such as Instagram, YouTube, and Snapchat among Gen Z [17, 54]. Regarding reasons of use, entertainment was identified as the primary motivation for using SNSs in personal life, as shown in Table 1. This finding contradicts previous studies that have indicated staying connected with family and friends as the main reason for college students' use of SNSs [48, 50]. It could thus be concluded that college-aged students in language classes today are highly focused on entertainment, which has significant implications for the nature of the L2 classroom. This is particularly important if the goal is to appeal to learners' interests in order to increase motivation, which is a crucial element of successful L2 acquisition.

YouTube, the image-led social platform, is not only the primary platform in students' current non-language and L2 classrooms, but it is also their preferred platform for L2 classroom use (Tables 4 and 5). The survey results (Tables 4 and 5) are consistent with several mainstream studies that have examined college students' choices of SNS for personal and educational purposes [50]. These studies have similarly found that YouTube is the most popular choice among college students. However, these findings contradict other research that has identified Facebook as the leading social platform among college students of a similar age group [48].

This study also investigated the effects of gender, age, and academic year of study on L2 learners' use of SNSs. Firstly, the results showed that female students enrolled in L2 classes use SNSs more frequently than male students (Table 6). Secondly, there was a significant effect of age on SNS use. More specifically, older students in L2 classrooms are less likely to use SNSs than younger students (Tables 10 and 11). Thirdly, first-year students have been found to use SNSs more intensely and frequently in L2 classes compared to L2 students at the senior and graduate academic levels (Tables 8 and 9). This suggests a shift in progress. When comparing the findings of the current research with mainstream studies, it was discovered that these findings contradicted the results of previous studies. Previous studies maintained

that age and gender were not significant variables in relation to SNS use in a college setting [55]. This implies a faster change that is currently in progress than may have been the case before.

Finally, the current research investigates the relationship between the frequency of self-reported technology use in L2 classrooms and the perceived usefulness of SNSs in L2 classes. While the majority of the participants agreed on the perceived usefulness of SNSs in L2 classrooms (Table 14), no correlation was found to exist between the two constructs.

## 6 CONCLUSION

Ever since the emergence of SNSs, there has been an ongoing argument about the limited number of empirical studies in peer-reviewed journals in the field. This is in stark contrast to the abundance of articles available in the popular press. The current exploratory research study is the first large-scale investigation that has recruited students of both commonly and less commonly taught languages, including a wide range of languages from various language families. This diverse array of languages includes Arabic, Bosnian-Croatian-Serbian, Estonian, Finnish, Hungarian, Mongolian, Persian, Polish, Russian, Turkish, and Uyghur, as well as the more commonly taught Spanish. Therefore, it significantly contributes to our understanding of L2 students' habits of using SNSs both in personal and educational contexts. Additionally, it informs our knowledge of what language learners perceive as helpful in L2 classes through SNSs. In fact, the study has several significant implications for the L2 classroom regarding the incorporation of SNSs in language teaching. It has demonstrated, among other things, a potential need to distinguish between SNSs that are popular among the general population and those that are specifically used and appreciated by college-aged students. For example, despite Facebook's current global dominance as a SNS and its popularity among previous generations, as emphasized also by educational research [24], recent research has found that there is a need to diversify the use of SNS and incorporate SNS tools that take into consideration the changing SNS habits of Gen Z, also known as the 'pivotal' generation.

The study shows that the new generation of college L2 students spends a significant amount of time using SNSs in their personal lives. This is not the case with earlier generations, even those who are only a few years older, as demonstrated by the significant gap between first-year and senior students. Furthermore, the type of SNSs they prefer to engage with is changing. The students today have a strong inclination towards entertainment and are more engaged with image-led social platforms. It should also be noted, however, that despite the overwhelming majority of L2 students having positive expectations towards using SNS in L2 classrooms, one-fourth of the students declined to provide any SNS names for either the current use or expected benefits of SNSs in L2 learning. This result can be explained as either students not having been exposed to SNSs or them being skeptical about the benefits of these tools in the classroom. Therefore, instructional designers and L2 instructors need to be aware of the characteristics of Gen Z L2 students, understand their preferences and interests, and incorporate the digital tools that they are familiar with and use in their daily lives into their classrooms. This investment necessitates the implementation of efficient strategies and tasks to effectively utilize these pedagogical tools as well as personal and professional engagement with new

multimedia technologies. In this way, instructional designers and L2 instructors will be synchronized with the needs and expectations of Gen Z.

Finally, it should be noted that the current study has employed quantitative research methods. This choice was made because the subject under investigation is currently in an exploratory stage, which requires a large sample size. Additionally, quantitative methods and analyses are well-suited for working with a large sample size [38]. Future research should also incorporate qualitative methodology, as it has the potential to provide a broader range of perspectives and facilitate a deeper understanding of participants' subjective experiences. It should also be noted that the participants in this study were recruited through convenience sampling, which can often lead to issues with generalization. Further research is, thus, needed in a variety of different contexts in order to obtain the most generalizable results. In fact, acquiring a comprehensive understanding would also require examining L2 instructors' perspectives on SNSs instead of solely focusing on the student experience, as was done in the present study.

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