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Impact of WeChat based Online Education Technology used for EFL Learners in India

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Abstract – In this paper we explored theImpact of WeChat based Online Education Technology used for EFL Learners in India. In India, WeChat is a multimedia instant messaging programme. An action study was used in this two-year research project. A total of 10 primary Indian students were engaged. The participants were instructed to evaluate language points on the weekly course postings after receiving and submitting the assignment through WeChat. Their WeChat Moments postings were captured and reassembled into language learning material. This research used a mixed-methods approach. The course learning outcomes, an end-of-semester questionnaire, and follow-up interviews were used to gather data. The findings indicate that WeChat-based learning is well received by the students. This research examines students' apparent linguistic growth in spontaneous WeChat expressions; a significant shift toward social media learning; and conscious and unconscious language input and output. Language learners said that using WeChat gave them a better chance to communicate with native speakers, allowed them to integrate knowledge into their daily lives, made it easier to review class content and share their thoughts, and gave them access to a long-term supportive Indian language community. However, the findings suggest that personal preferences for social media should be taken into account; WeChat fails to promote independent learning in students; and students' involvement and motivation decreased as the programme progressed. In hindsight, monitoring and overseeing WeChat use as needed, assigning post themes, and encouraging interest in language learning by addressing real-world issues are all suggestions.

KEYWORD: Impact, WeChat based Online, Education Technology, EFL, Learners, India

I. INTRODUCTION

During the COVID-19 epidemic, the usage of online teaching through various mobile apps has grown in popularity in education across the globe. Technology integration in education is becoming increasingly prevalent, particularly during the COVID-19 epidemic. In today's world, we witness the widespread use of technology and new technical instruments in our everyday life [1]. We use technology and computers to make our everyday chores easier. Technology has

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pervaded every area of our life, particularly our educational system. Technology has had an impact on education and how it is delivered; it has also altered traditional teaching techniques [2]. Technology is seen as a catalyst for improving the teaching and learning process [3].

Instructors may offer learners with a more pleasant learning environment and more advantageous learning chances by using instructional technology, such as digital apparatuses [4]. In today's world, mobile phones and social media are two examples of computerized tools [53]. Websites and web-based frameworks accessible through any device that enable individuals to use the network for mass contact, debate, and sharing via the Internet are referred to as social media [5]. Teachers are becoming increasingly interested in using social media into their lessons, such as when teaching vocabulary [6, 7]. In this regard, Ariza and Hancock [8] claim that using social media to learn vocabulary is quite similar to how a kid learns his first language.

The WeChat application, a kind of mobile software with social communication characteristics and platform function that may propose a new platform and application mode for distant education [9], is one social application that can be used in education. WeChat is a mobile text and voice messaging communication service that has the property of ubiquitous learning, making it available to virtually all learners at any time and from anywhere. Distance education [54] is more feasible, convenient, and effective thanks to the WeChat learning platform. Text messaging, hold-to-talk voice messaging, broadcast messaging, video conferencing, video gaming, picture and video sharing, and location sharing are all possible [9, 10]. According to Zeng et al. [11], WeChat may enhance students' excitement and engagement, improve their self-initiative learning capacity, and improve their cooperation with peers.

Using the WeChat application to improve EFL learners' vocabulary knowledge may be beneficial. According to Wu [12], vocabulary refers to a language's complete set of words and phrases. Furthermore, words are the building blocks of a language; without them, it is difficult to form sentences [13]. The environment is very important for teaching vocabulary, which is why Warschauer [14] emphasizes that the more opportunities given to real communication learners while using the Internet and e-mail in language learning, the better.

With this research, we want to add to our understanding of the role of platforms like WeChat in language learning. Teachers may decide to utilize such platforms as a result of this information to encourage students to engage more in online activities in order to enhance their language skills. Furthermore, Wu and Miller [15] acknowledge the enormous difficulties for instructors in designing or planning various activities using Internet resources, as well as the virtues and benefits of students looking for them. According to Datzman [16], acquiring vocabulary presents significant challenges for both teachers and students. As a result, the researchers believe that this study can help Indian EFL learners improve their vocabulary knowledge by assisting them with vocabulary acquisition [57].

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II. LITERATURE REVIEW

Technology has been hailed as a significant advancement because of its rapid expansion into many areas of people's life, including education. In today's educational settings, technology is the focal point [17–19]. In EFL courses, it is thought that technology may help in teaching and learning [59]. Instructors are now using technology tools to help students improve their language abilities in EFL settings. Researchers have found that technology may help students become more engaged in their language study. It gives students a taste of the real world by using genuine resources, and it aids instructors in making their classes more engaging by using online English activities [52]. In addition, for language learners, technology may propose an active-learning scenario [15, 20, 54]. Some teachers, for example, may encourage their students to create a film about executing action verbs, portray a short storey, and so on. Furthermore, technology may improve students' attitudes toward learning while also saving time for both teachers and students [21, 22].

WeChat is a smart platform that is mainly for individuals, organisations, or media, and it is coupled with subscription, official accounts, and service accounts [23]). WeChat allows users to interact in groups via pictures, text, and voice. WeChat is a popular Internet-based smart device with a large user base. This app has a feature that other social apps don't have: it can send out timely and accurate information. WeChat aided language learning (WALL), according to Pan et al. [24], is a major advance in the universal learning community. They said that WeChat has the ability to provide learners with a situational and communicative learning environment, allowing them to go from language competency to language mastery.

WeChat is backed by connectivism, which is the digital age's learning philosophy [25–28]. According to Siemens, learning entails creating an external network of nodes via which we link and assemble information and knowledge sources. Internal network (neural) learning is what happens in our brains [16, 27, 29, 30]. A network is made up of connections between things (nodes), which may be individuals, organisations, systems, areas, views, resources, or societies [15, 31, 32]. Learning, according to connectivism, is a process of connecting specialised nodes or information sources; learning can take place in nonhuman appliances; maintaining and protecting connections is critical to facilitating continuous learning, which emphasises connections and feedback connections [27, 33, 34].

The efficacy of mobile apps for English language acquisition has been studied in several experimental research. Basal et al. [35], for example, investigated the effects of a mobile application on teaching Turkish pupils idioms. The researchers chose 50 first-year students from an English Language Teaching Department at a Turkish public institution [56] for their investigation. The participants were split into two groups: a control group of 25 people and an experimental group of 25 people. Participants in the control group were taught via conventional

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activities, while those in the experimental group were taught through the use of a mobile application. On the posttest, the experimental group members outflanked the control group, according to the results.

Shi et al. [36] tried to address the issue by combining WeChat instant messaging with mobile-assisted language learning. In order to conduct this study, 50 students were chosen as responders. The responses were then divided into two groups. The experimental group was taught English using the WeChat mobile application, whereas the control group was taught English without using the WeChat app. To gather the necessary data, a pretest and a posttest were administered, and the results were evaluated in accordance with the study's goals. Participants who were taught through WeChat acquired substantially greater English competence than those who did not utilise WeChat, according to the results.

Sung and Poole [37] conducted research on college students' usage of WeChat in a language learning project in tandem. To conduct this study, they posed two research questions: (1) How do Chinese–English dyads use the WeChat language study app on a weekly basis? (2) What are the Chinese–English dyads' perspectives on the usage of the WeChat app for language learning? The participants' interactions were recorded in this exploratory research, and snippets were used to illustrate how the dyads used the WeChat programme. After the tandem language learning programme was completed, the participants were given an online survey in which they were asked questions regarding how the dyads used the WeChat application for language learning. The survey's results indicated that the majority of the participants' experiences with the WeChat Application were pleasant and positive, with just a few flaws.

Jin [26] conducted an experimental study using mobile-assisted language learning, focusing on the interaction variety between English instructors and TESOL students. Three English reading courses for undergraduate English major students at Shenzhen University in China utilised the WeChat platform. The findings revealed that all of the participants spent the whole day online using WeChat and were interested in using it for English study. Participants liked following multistep instructions using WeChat, asking for help when they needed it, and, most significantly, sharing their thoughts or reports more readily than in a traditional class.

Lei [38] conducted an experiment to see whether there was a viable technique for learning vocabulary using the WeChat app on cellphones, which is popular among college students. To conduct this study, 30 students were invited to join a WeChat group and were given word tests both before and after the study. In addition, a month later, a questionnaire survey was performed. The results showed that the participants readily accepted this new way of learning and that the majority of them were able to stick to the timetable. They increased their study self-control and were encouraged and inspired to experiment with new ways to enhance their studies using smartphone applications.

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Cavin et al. [13] investigated the impact of the WeChat application on the word learning of CFL students. The selected respondents took part in a ten-day treatment in which they used three aspects of the WeChat app: chatting, official accounts, and micro programmes. Tests were used to assess the participants' performance before and after the intervention. In addition, observation checklists were utilised to track changes in CFL learners' behaviour as they learned new vocabulary. The results revealed that the WeChat programme may help learners improve their vocabulary in a foreign language.

According to the research mentioned above, utilising the WeChat application to study and teach English is a successful approach. Despite the fact that this programme is helpful for teaching and learning and is used by millions of people, there are few research on WeChat application or WeChat teaching in India. As a result, the goal of this research was to see how the WeChat application affected the vocabulary development of Indian EFL students [55]. As a result, the research question below was asked.

III. METHODOLOGIES

A total of 44 (male) intermediate Indian EFL students were chosen via convenience selection from a group of 67 students for this research. The participants ranged in age from 15 to 21, and their level of English ability was assessed using the Oxford Quick Placement Test scores (OQPT). Due to gender segregation, the researchers chose only male students to participate in their study. The participants were split into two groups at random: an experimental group (EG; WeChat group) and a control group (CG).

- *Instruments*

The OQPT was the first instrument used in this study to homogenise the subjects. It was used to assist the researchers in determining the participants' proficiency level (elementary, preintermediate, and intermediate). Students who scored between 30 and 47 (out of 60) on this exam were classified as intermediate learners. It is meant to be norm-referenced as a competence exam, and it is designed to ‘assess global language skills’ (Brown, 2005, p. 2). OQPT has been verified by over 8,000 students from 25 countries, with a reliability of 0.90.

A researcher-made vocabulary pretest was the second instrument used to gather the data required to answer the study question. It was created using the students' course book as a guide (504 Essential Words). Before starting the WeChat therapy, this exam was used to assess the pupils' vocabulary knowledge. This exam consisted of thirty multiple-choice questions. A panel of English specialists confirmed the pretest's validity, and its reliability was determined using the KR-21 method ($r = 0.85$).

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The researchers utilised a researcher-made vocabulary posttest as the third instrument in this study. It was provided to the participants in order to assess the treatment's effect on their vocabulary development. The posttest was a modified version of the pretest, with the sequence of questions and choices altered to eliminate the possibility of recalling pretest responses. The posttest was considered as both trustworthy and legitimate since it was a modified version of the pretest with only minor changes between them. However, those who verified the pretest agreed that the posttest was legitimate, and its reliability was determined using the KR-21 method (r = 0.98). According to Shuttleworth [39], quasi-experimental studies often use a pretest–posttest research instrument to aid researchers in assessing participants' abilities before and after treatment.

- *Materials*

93 English words from the above-mentioned book were selected for this study. Nouns, verbs, adverbs, and adjectives are among the words chosen. The researchers next provided the subjects the list of terms to see which ones they knew and which ones they didn't. The target words were stripped of all known terms, leaving just the remaining words to be taught to the participants. The target terms that will be taught are new, unfamiliar, or challenging for the participants, according to Dufon and Fong [40]. 61 vocabulary items were unfamiliar to the participants based on their responses to the word list, and they were considered study materials.

- *Data Collection Procedure*

After the research participants were homogenised, a vocabulary pretest was administered to determine their degree of vocabulary knowledge. The experimental group's members were then given the word instruction through the WeChat programme. The experimental group had the WeChat programme installed on their phones, tablets, laptops, or desktops, which they used to acquire new language. During each session, 10 words were given to the pupils through the WeChat programme, and they were instructed to practise them together. The responders were given several questions about the meaning of the terms after they had practised them. When they ran into a difficulty, they sought assistance from the researcher or other participants. The experimental group's members were asked to create new phrases using the new terms.

The participants in the control group, on the other hand, were taught the new terms using a conventional manner. The control participants were taught the new terms via face-to-face teaching. The pupils were initially exposed to the new terms, after which they were given their translations, antonyms, and synonyms. The whole training lasted nine 40-minute sessions. The participants were homogenised and pretested in the first and second sessions, respectively; the treatment was practised in six sessions, and the participants in both groups were given a

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vocabulary posttest in the last session to determine the effects of the treatment on their vocabulary development.

- *Data Analysis*

The researchers evaluated the data based on the study goals after collecting it via pre- and posttests. Because the data was distributed normally, the researchers chose to use parametric statistics including one-way ANCOVA, paired samples t-test, and independent samples t-test to determine the effects of WeChat on Indian EFL learners' vocabulary knowledge. When all of the necessary data had been collected, it was evaluated to arrive at the final findings. The normality of the distribution of pre- and posttest results for both groups was verified using a Kolmogorov–Smirnov test before any analyses were conducted. There was no statistical significance in any of the four tests. As a result, the data was regarded as normal, and parametric tests were run.

- *Limitations of the Research*

Only 44 individuals were involved in this study, which has significant drawbacks. Female students were not included in this research since it was performed on male pupils. The research was restricted to Indian EFL students, but it may be replicated in other nations. Because the present research focused on Indian intermediate EFL students, the findings cannot be applied to all language learners at all levels in diverse educational settings. This study only utilised a pre- and posttest to support its findings, which raises questions about the analysis's robustness. Other tools, such as interviews and questionnaires, may be employed to improve the findings' validity and reliability.

IV. RESULTS AND DISCUSSIONS

To begin, the pretest results of the two groups were compared using an independent samples t-test to determine their homogeneity in terms of vocabulary knowledge.

Table 1 indicates that the EG learners had a mean score of 13.88 on the pretest, whereas the CG learners had a mean score of 13.97. The difference in mean scores between the two groups was not statistically significant (t (36.42) =0.19; P=0.85).

Table 1 For the pretest, an independent samples t-test was used.

	Groups	*N*	Mean	Standard deviation	Standard error mean	*t*	d*f*	P
Pretest	EG	22	13.88	1.21	0.25	−0.19	36.42	0.85
	CG	22	13.97	1.83	0.39			

Note. EG: experimental group and CG: control group.

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The posttest results of the EG and CG learners had to be compared since the study's primary research question was to see whether utilising the WeChat application might substantially impact the learning of vocabulary by Indian male intermediate EFL learners. One-way ANCOVA was selected as the method of choice to achieve this goal:

In Table 2, it can be shown that the EG learners' posttest mean score (M = 17.93) was higher than the CG learners' posttest mean score (M = 14.38). Table 3 shows that this difference was statistically significant (F (1, 41) = 121.53; P0.01).

Table 2 comparing the posttest results of EG and CG students using descriptive statistics

Groups	Mean	Standard deviation	*N*
EG	17.93	0.72	22
CG	14.38	2.12	22
Total	16.15	2.38	44

Table 3 Results of a one-way ANCOVA for comparing the EG and CG learners' posttest scores

Source	Type III sum of squares	d*f*	Mean square	*F*		Partial eta squared
Corrected model	195.47	2	97.73	82.770	0.00	0.80
Pretest	57.20	1	57.20	48.44	0.00	0.55
Groups	143.51	1	143.51	121.53	0.00	0.75
Error	48.41	41	1.18			
Total	11,733.00	44				

The P value was less than the alpha threshold of significance (0.000.05), indicating that the difference in vocabulary posttest scores between EG and CG was statistically significant. This implies that EG students' vocabulary acquisition may be substantially improved by utilising the WeChat programme. Furthermore, the effect size was 0.74, indicating that the treatment accounted for 75% of the difference between EG and CG students that could not be explained by the pretest.

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- *Discussion*

The present research looked at the impact of the WeChat application on the vocabulary knowledge of Indian EFL students. The results revealed that the experimental group who got therapy through the WeChat app outperformed the control group who received conventional teaching. One explanation for the experimental group's superior performance over the control group is that WeChat may encourage autonomous learning in the experimental group. The second reason is that WeChat made it easier for students to study class material and communicate their views. Another reason for the findings is that WeChat is rich in language content from Moments threads and posts, which may offer students with a diversity of linguistic input to meet their various interests and requirements, and therefore boost production.

The findings of this research demonstrated the efficacy of utilising WeChat to improve the vocabulary knowledge of Indian EFL students. This efficiency may be ascribed to the fact that WeChat benefits students' language learning in a variety of ways, including linguistic gain, interactive convenience, immediate feedback, and translation friendliness for basic language learners. WeChat provided pupils with a welcoming and comfortable communication environment as well as a platform for the language application.

The availability, accessibility, and flexibility of various mobile apps, according to Zou and Li [41], may significantly assist English learners in increasing their desire for learning. Furthermore, mobile apps may broaden the learning context outside the classroom. In terms of language acquisition, the WeChat application is extremely useful for students, since they frequently do not have enough time to practise English in the classroom [42].

The WeChat programme allows users to communicate instantly, demonstrating effective language acquisition. Teachers may use WeChat to promote student engagement. Teachers may provide precise feedback on the performance of the work in various ways when students submit their homework via WeChat in the form of images, audio, or text to promote a complete growth in language acquisition. Teachers may also manage the group chat and students' sharing of moments, and reply to their messages and queries within 24 hours [43]. The WeChat application may help students acquire language by removing time and location constraints and allowing them to study both inside and outside the classroom. Furthermore, using technology may increase EFL learners' motivation, foster positive attitudes about learning a foreign language [44], and reduce EFL students' fear in language courses [10]. The experimental group may have outperformed the control group on the vocabulary posttest because of the benefits stated for the WeChat application.

Other factors may be at play for the experimental group's superior vocabulary acquisition results. For starters, mobile apps like WeChat may offer students with a multimedia learning

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environment in which they can learn the target phrases. Students may learn the target words using relevant pictures, understandable example sentences, word pronunciation, and Persian definitions in the learning area. Students are given the role of 'knowledge function Object() { [native code] } who actively chooses and combines bits of visual and verbal information' [45] as a result of the multimedia presentations, which help them learn words more quickly and motivate them. Furthermore, using pictures and audio files is better than using words alone in terms of memory development and may help EFL students recall words quicker, according to Ramezanali's study [46].

The second reason is that mobile apps are portable, immediate, and convenient. The students could use the WeChat programme to study and review the new terms both inside and outside of the classroom, wherever they chose. These findings are consistent with Steel's [47] research, which found that a mobile app for language learning was a more practical assistance since it could extend language learning outside of the classroom, particularly when in-class language practise time was restricted. Furthermore, the mobile apps encourage personalised and private learning, allowing students to acquire vocabulary at their own pace, depending on their unique language abilities or the speed with which they remember words.

The findings of this research agree with those of Shi et al. [36], who found that students in the WeChat group increased their English skills substantially. Furthermore, the findings of this research are consistent with those of Jin [26], who found that all participants used WeChat all day and were interested in utilising it for English learning. The results of this research are also confirmed by Cavin et al. [13], who investigated the impacts of the WeChat application on CFL learners' vocabulary acquisition, and found that WeChat may help students acquire vocabulary in a foreign language.

This research backs up Siemens' [27] idea of connectivism, which says that learning occurs when a student feeds their knowledge by creating links with the community's collective information [48]. These links are formed in three contexts: biological/neural, conceptual, and social/external [49]. Knowledge is not just transmitted from instructors to pupils, but also via individual interactions, according to connectivists, and learning does not take place in a single location, particularly in a web context [50]. Students, according to connectivism theory, are in charge of their own education.

This research also supports Harasim's [51] online collaborative learning theory, which focuses on the Internet's capabilities to create learning settings that promote cooperation and knowledge development. Harasim [51], like Siemens [27], affirms the benefits of Internet-based teaching and learning, as well as large-scale networked education. Students may solve issues jointly via discourse, according to the online collaborative learning theory, and this cooperation can help them improve their English learning.

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V. CONCLUSION

WeChat-based teaching helped Indian EFL learners increase their vocabulary knowledge, according to the findings. We can claim that using WeChat to teach students may enhance their interest in studying as well as their desire to improve their English skills. As a result, we may make the following conclusions: (1)In order to effectively utilise new apps, teachers must refresh their technical expertise. Teachers should understand how to utilise mobile learning, particularly WeChat, in the era of technology. (2)Students, like instructors, must acquire technological expertise in order to be able to utilise various apps on their own to study English at any location and time. (3)Unquestionably, new technology tools and apps may help teachers and students learn and teach a foreign language. They should not, however, always be seen as superior to classroom teaching. As a result, the importance of instructors in face-to-face teaching should not be overlooked.

The findings of this research may have ramifications for students and instructors. WeChat may help shy students feel less self-conscious in face-to-face encounters and lessen their nervousness when speaking English. As an active learning-teaching approach, WeChat instruction transforms a teacher-centered class [58] into a student-centered class. Students may study actively at any time, both before and after class, by utilising WeChat teaching. WeChat teaching encourages students to work in groups and includes continuous assessments of conceptual comprehension to give feedback to both students and teachers. Individuals are more likely to learn successfully when they work with others than when they work alone, thus a change from pupils studying individually to studying in groups for specific topics is helpful. Teachers and students can only communicate and engage in the classroom in a conventional classroom environment, whereas WeChat teaching allows them to communicate and interact at any time and place after class. In the past, teachers would utilise a textbook for a full semester and go over it step by step. Teachers may maintain various resources according to their teaching plans and upload updated materials via WeChat.

While performing the current investigation, the researchers came up with a few suggestions. The first suggestion for future research is to involve more people in order to get more understandable findings. Working on additional language competence levels, such as elementary, upper-intermediate, and advanced, is the second suggestion for future research. The third recommendation for future research on a comparable subject is to include gender, which means that both female and male students should participate. The fourth recommendation is that comparable studies be conducted in different geographical regions in the future. The final recommendation is to think about how WeChat affects other abilities and subskills.

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