

Drill-and-practice chatbots for teaching English morphological affixation in international master's students

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ABSTRACT

Chatbots are increasingly used in language education, yet research has focused mainly on speaking, listening, vocabulary, grammar, and learner motivation, and findings on their learning effects remain inconsistent. Morphology, especially affixation, is still often taught through lectures and written exercises, which limits student participation and encourages memorization over conceptual understanding. Few studies have examined drill-and-practice chatbots for teaching English affixation, particularly among international master's students who are also English teachers. This study therefore investigates how these students used a drill-and-practice chatbot to teach English affixation, how they adopted it in diverse classrooms, and how they responded to it. A descriptive qualitative case study was conducted over three months with twenty-two international master's students who were also English teachers. Data were collected through an observation checklist, interviews, and digital documentation. The findings show three results. First, the chatbot comprised four stages: introducing affixes through songs, identifying affixes, substitution and expansion, and evaluation and review through quizzes and fun facts. Second, teachers' experiences involved technical adaptation, structural success, and cultural discontent. Third, their culturally responsive approach included word formation, word translation strategies, and cultural competence in digital learning. The chatbot appeared to support morphological competence and teachers' culturally responsive digital teaching. Its limitations include a small, specific sample and a qualitative design. Practically, teacher educators can integrate such chatbots into morphology instruction. Future research should use larger samples, varied proficiency levels, and experimental designs to test efficacy.

Keywords: affix knowledge; culturally responsive; digital learning; drill and practice chatbots; international students; morphology

First Received:	Revised:	Accepted:	Published:
April 4 th , 2026	September 9 th , 2026	September 18 th , 2026	October 10 th , 2026

How to cite (in APA style):

Nurhayati, D. A. W. (2026). Drill-and-practice chatbots for teaching English morphological affixation in international master's students. *Journal of Research on English and Language Learning (J-ReaLL)*, 7(2), 687–706.
<https://doi.org/10.33474/j-reall.v7i2.25205>

INTRODUCTION

The shift from Industry 4.0, driven by artificial intelligence, to Society 5.0 shifts the focus toward partnerships between technology and people. The rapid development of artificial intelligence in education plays a significant role in achieving learning goals (Haleem et al., 2022; Kamalov et al., 2023).

Artificial intelligence is considered one of the digital technology has brought significant transformation in the world of education, not only in terms of delivering materials, but also in the way students build understanding and interact with knowledge (Oliveira & de Souza, 2022).

The transformation of artificial intelligence has bolstered the deployment of chatbots in education, especially related to language instruction (Smutný & Schreiberova, 2020; Hwang & Chang, 2021). Moreover, chatbots as AI-based English learning applications, notably in personalized learning, effectively assist students' experiences in real-time and virtual language learning, and real-life language interaction. Furthermore, they promote various English learning styles, helping students to identify and advance, expand, or lift their weaknesses and strengths in English learning. Besides, the change of chatbots as one of the artificial intelligence tools has also influenced the approach to linguistic studies, a field that has long been known as the realm of theoretical and conceptual studies (Linares & Xin, 2020). Chatbots, as one of the artificial intelligence tools, can be deployed in education, such as morphology as part of the linguistic field, in interactive ways.

The researcher argues that investigating drill-and-practice chatbots in morphological instruction is crucial because of changing educational criteria in society 5.0. This study matters because it addresses the need to bridge the gap between conceptual linguistic approaches and practical teaching demands. Morphological awareness has been empirically shown to contribute significantly to vocabulary expansion, reading fluency, and overall reading comprehension (Cheng, 2022). Additionally, bolstering students' English morphological awareness would face complexity; it often makes it difficult for them to understand basic concepts such as morphemes, affixation, reduplication, and word pluralization, especially if the material is delivered monologically through lecture methods or just written exercises.

This has an impact on the low active participation of students and the lack of exploration space for contextual and applicative understanding (Koller, 2024). In fact, morphology is not just a collection of static rules, but a dynamic system that is closely related to the production and interpretation of language in real life. This fact also leads to the deployment of a traditional approach; it makes it easier for them to get caught up in memorizing English affixation, and they seldom understand the deep concepts of English morphology (Shafiyeva, 2021). The relevance of former research assembles the dominant base that bolsters the viewpoint of this study. The diverse body of research has investigated the deployment of mobile technology and web-based applications in English language instruction extensively (Kukulska-Hulme, 2018; Shadiev et al., 2017), thus far largest still concentrate on macro skills like speaking and listening.

A few earlier studies have delved into using chatbots for English morphology. Some of the studies related to the use of AI chatbots in language learning have examined several linguistic components, grammar, and learning motivation. Then, in another study, AI chatbots have been deployed to advance language skills such as listening and speaking (Dizon, 2020) and linguistic knowledge such as vocabulary (Mageira et al., 2022) and grammar (Na-Young, 2019). Chatbots have also been deployed to expand positive affect, containing learning motivation, interests (Fryer et al., 2017), confidence, and willingness to respond (Tai & Chen, 2020). Nevertheless, existing research studies on chatbots have reported rather mixed findings on their effects. For example, several studies reported that chatbots enhanced learners' learning interest and motivation (Kim et al., 2021; Yin et al., 2021; Deng & Yu, 2023; Jeon & Lee, 2024; Huang et al., 2025) whereas others reported that learners preferred to interact with peers rather than chatbots (Fryer et al., 2017; Fidan & Gencel, 2022; Wang & Xue, 2024; Morris & Maes, 2026).

Similarly, inconsistent findings have been reported on the learning outcomes of chatbots. For instance, Lyu et al. (2025) discovered that learners who engaged with a self-developed chatbot significantly improved their argumentative writing more than those who did not, whereas Zhang et al. (2023) identified that the self-developed chatbot was slightly less effective than the self-developed tutoring website in changing logical fallacies knowledge in argumentative writing. Even though there are studies investigating the concern of morphological awareness in English affixes, the consequence gap endures regarding the deployment of a drill-and-practice chatbot, especially for morphological affixes.

This study contributes to filling the gap by presenting a drill-and-practice-based chatbot focusing on how international master's students as English teachers deploy a drill-and-practice chatbot to teach English morphological affixation, how teachers' ways of adopting drill-and-practice chatbots in diverse classrooms, and how international responses of international master's students as English teachers deploy a drill-and-practice chatbot to teach English morphological affixation. This research offers a body of factual proof that interactive dialogue with a chatbot can ease students' comprehension of affixation, particularly in English affixes. Research further bolsters this claim by promoting the idea that interactive technology-based approaches could boost higher-level linguistic processing in students' expression. The results of this research are predicted to contribute realistic recommendations for morphological affixes on how to apply drill and practice to advance master students' linguistic permissive them to develop into flexible language users in teaching and learning English affixes.

LITERATURE REVIEW

Morphology and affix knowledge

Morphology is the study of the internal structure of words and the rules that govern word formation (Lieber, 2012; Booij, 2019; Yule, 2019). In language instruction, it encompasses morphological awareness, the implicit or explicit metalinguistic ability to reflect upon, analyze, and use morphemes. Wardana (2023) describes English morphological awareness as learners' ability to identify, understand, and construct words through processes such as derivation, inflection, affixation, conversion, reduplication, abbreviation, acronyms, and onomatopoeia. Morphological knowledge is also a component of reading comprehension (Jeon, 2022). It enables learners to decompose complex words into meaningful parts, which supports vocabulary growth and text understanding.

Affix knowledge is a concrete sub-dimension of morphological knowledge. Grounded in frameworks of vocabulary knowledge, it concentrates on recognizing word parts, specifically the form, meaning, and function of prefixes and suffixes. An affix is a morpheme attached to the stem of a word to create a new word or a new form of it. Kharaeva et al. (2022) define affixation as the attachment of prefixes, suffixes, and infixes to a stem, and Byrd and Mintz (2010) identify it as the most prevalent means of generating new words. Clark (2015) adds that affixes are essential for recognizing and interpreting complex words. Affix knowledge therefore strongly influences how far learners can expand their vocabulary.

Morphological knowledge is a complex construct. Readers must recognize affixes and bases and also understand how they combine to create new meanings and grammatical functions across contexts (Al-Kaboody et al., 2026). The construct spans orthography, phonology, semantics, and syntax (Zhang et al., 2016), and its terminology (morphological knowledge, awareness, analysis, processing) is used without firm distinctions (Goodwin & Ahn, 2013). Following Bratlie et al. (2022), Goodwin et al. (2021), and Jeon and Yamashita (2024), this paper uses *morphological knowledge* as an umbrella term covering both tacit use and explicit knowledge of derivational morphemes. L1 studies on its dimensionality are mixed: some support unidimensionality (James et al., 2021), others multidimensionality (Goodwin et al., 2021; Kaldes et al., 2024). A growing consensus favors the multidimensional view, represented by the morphological pathways framework (Levesque et al., 2021), which situates morphological knowledge within the orthographic system, the linguistic system, and lexical representation. Because affix knowledge is explicit metalinguistic knowledge that supports decoding complex words, learners need structured, repeated practice to build it, and this is where instructional tools such as chatbots become relevant.

Chatbots in language learning

Chatbots are automated conversational agents that have attracted considerable interest in enhancing learner engagement and instruction. They have been used in foreign-language programs, English for specific purposes, and speaking and basic-skills courses (Setyawan & Pramudita, 2025). A chatbot can simulate two-way dialogue, adaptively present exercises, and give instant feedback on learners' answers

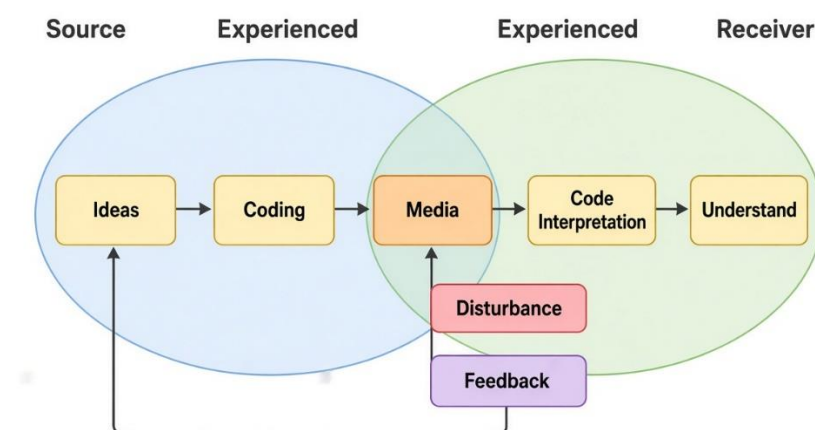
(Lin et al., 2023). It also lets students in English study programs learn anytime and anywhere with a more dynamic, personalized experience (Harisha et al., 2024). Chatbots can further help learners understand linguistic forms within real English sentences, strengthening both linguistic competence and digital literacy (Luckyardi et al., 2024; Yu & Wang, 2025; Zhang, 2025).

Two features matter most for morphology. First, interaction lets learners observe how prefixes and suffixes behave when words are used in context, rather than recalling rules from a workbook. Second, immediate feedback allows learners to notice and correct an erroneous word form at once, and chatbot-delivered immediate feedback has been shown to improve learners' experience (Kamelabad et al., 2026). Chatbots may also benefit students who feel anxious about speaking in front of peers or in class, as studies report effects on willingness to communicate and speaking anxiety (Deng et al., 2024; Wang et al., 2024).

Empirical studies support the general value of chatbots. Wahyuni et al. (2020) examined foreign students' experience with chatbots as an alternative for learning English vocabulary and grammar and found that they could provide accurate feedback. Sarosa et al. (2020) developed a chatbot for English learning, and 97.5% of participating students reported that it helped them learn English structures. Figure 1 shows the position of the chatbot as a teaching medium (Huang et al., 2022).

Figure 1

The Position of Teaching Media (Huang et al., 2022)



However, these studies address general vocabulary and grammar rather than the structural analysis and meaning functions that characterize morphology. Chatbots are nonetheless well suited to strengthening morphological awareness: learners who rehearse and interact with words through a chatbot examine unfamiliar words and ask questions willingly, which deepens their understanding of how English words are constructed.

Drill and practice chatbots for morphology instruction

Drill and practice centers on repeated activity to consolidate facts or skills. Roestiyah (2008) describes the drill technique as a method in which students carry out specific practice activities; "drill" implies constant repetition and "practice" the execution of actions in a given field. The method aims to help students solve problems quickly and accurately (Prayogo, 2022). It fosters specific habits through continuous repetition until they become ingrained routines (Rusman et al., 2013), and it relies on learners' active participation to develop skills (DeKeyser, 2007).

Chatbots suit this model because they are digital interactive assistants, already widely used for interactive language communication (Huang et al., 2022). Their use has extended from home tutoring and preschool and primary education (Baskara, 2023) to higher education, where educators and

students increasingly accept them (Kohnke, 2022). Performance varies by tool: Caccavale et al. (2025) compared ChatGPT, Bing Chat, Bard, and Ernie and reported that GPT-4 and its predecessor performed best. Ghafar (2023) argues that ChatGPT is a flexible tool that can provide tailored support, guidance, and assessment, promoting learners' motivation and engagement. Learning outcomes in chatbot-supported settings have also been studied empirically (Li et al., 2025).

For affix instruction, a drill-and-practice chatbot could combine explanations, illustrations, and interactive exercises on morphemes, prefixes, suffixes, and inflectional and derivational word formation. This design would be supported by evidence that affix knowledge is tied to vocabulary competence. Namsaeng et al. (2024) report that stronger receptive and productive vocabulary is associated with better affix knowledge, and that suffix knowledge in particular contributes to productive vocabulary. Even so, studies that design and test a drill-and-practice chatbot specifically for English affixes remain scarce, which is the gap this study addresses.

Culturally responsive digital learning

Digital learning environments can be understood through connectivism, in which learners and teachers explore topics together on shared online pathways (Conrad & Donaldson, 2009). Such spaces are open and inclusive by nature and must accommodate globally connected, fluid digital cultures, which creates opportunities to construct new global and local learning narratives. This supports an adaptive digital pedagogy, particularly for teaching morphological affixes to international master's students. Understanding morphemes improves vocabulary acquisition, language processing, and reading comprehension, especially in multilingual classrooms (Rabadi, 2019).

International classes in Indonesian higher education are linguistically and culturally diverse, and language barriers and cultural differences can hinder learning, communication, and social integration (Wahyudi et al., 2023). Cultural adaptation is likewise crucial for technology used globally. Nordin et al. (2020) stress culturally sensitive design in AI systems, especially in educational contexts where student backgrounds vary widely. Gay (2002) describes culturally responsive teaching as drawing on students' cultural characteristics, experiences, and perspectives to make teaching more effective. It builds on Ladson-Billings' (1995) theory of culturally relevant pedagogy, which she developed from the practices of exemplary teachers, and Paris (2012) extends it to culturally sustaining pedagogy, which aims to foster and maintain linguistic and cultural pluralism in schooling. Together, these perspectives frame how chatbot-based affix instruction can be adapted to learners' linguistic and cultural backgrounds.

Despite this, culturally responsive chatbot-based instruction in English morphology remains underexplored, especially among master's students who are themselves English teachers. In this study, these students use chatbots to teach three types of affixes and derivation and inflection tasks. They draw on their own circumstances and teaching experience to design activities that feel relevant to their learners, adapting morphological lessons to learners' needs and interests. This makes lessons more engaging, lets learners explore prefixes and suffixes through interactive tasks, and helps the teachers attract their learners' enthusiasm. Through reflection and discussion, the master's students also gained insight into how cultural awareness contributes to more effective morphology instruction.

METHOD

This study conducted a qualitative case study design to investigate how drill-and-practice chatbots and their culturally responsive on deploying it in the process of teaching. The qualitative approach was chosen because this research seeks to capture and describe how participants apply the chatbot in teaching English affixes and how international students as English teachers prioritize cultural responsiveness in teaching their students. In line with Creswell (2018), a qualitative approach is relevant when researchers want to explore and understand the meaning that individuals or groups build towards a social or educational problem. The selection of the case study design was based on the consideration that this study wanted to intensively explore the use of chatbots in the context of morphology learning in a group of English master's program students using repetition with variety

(drill-and-practice), with a chatbot-based application as an assistive technology and an alternative autonomous learning entail a methodical procedure that progresses from basic imitation and exercises in learners and is directed to deploy a series of tasks designed to enhance their morphological awareness in constructing English affixes. The criteria for selecting informants are determined by purposive sampling from 27 population and the reasons for selecting those 22 participants of the English Language Study Program, graduate school, Universitas Islam Negeri Sayyid Ali Rahmatullah Tulungagung, are: (1) master's students as English teachers who are naturally exposed to online applications in daily life, including AI-based English learning platforms, especially teaching morphology using chatbots; (2) they had completed the 2nd Semester; 3) they completed Morphology and Innovations in ELT courses. [Sugiyono \(2018\)](#) stated that case studies are very appropriate to be used to answer the "how" and "why" questions of contemporary phenomena in real-world contexts, especially those that have not been studied in depth.

This research was conducted at each school with international master's students as English teachers during September-November 2025. The primary data came directly from the 22 master's students involved in these activities. They included their interaction expressions and observable behaviors related to using chatbots. These were collected through observations, capturing real experiences in learning morphology using chatbots and their strategies. Secondary data came from documents that support and provide context for the primary data. The data in this study was obtained through three instruments of collecting data included (1) An observation checklist for a morphology lesson captures real-time students actions, engagement, and application of word chunks such as prefixes, roots, suffixes, then it also equips a systematical, equitable direction to document learning practices they occur instead of conditional remembrance including identification, deconstruction, application, engagement like the process of students interaction with chatbots during the period of use to examine how students use chatbots in completing assignments or understanding morphological material; (2) Digital documentation, in the form of screenshots of chatbot conversations, interaction recordings, and reflective notes of students; (3) Interview for strategies used by English master students as English teacher in teaching morphological affixes. Triangulation techniques are used to ensure the validity and reliability of data through comparison between interview results related to master students' responses when they teach English affixes in class using a chat and drill chatbot, observation checklist used in conducting stages of teaching, and documentation used in capturing each stage using chatbot.

The validity of the interview was ensured by cross-checking claims; during the interview, the researcher asked or interviewed the international master's students who taught their students using a drill-and-practice chatbot. If they claimed during the interview that they successfully implemented all four stages of the affix lesson, they checked the observation checklist to see if all those stages were completed. Then, for verifying with the observation checklist and identifying discrepancies, if a student reports that their chatbot drill was highly engaging and involving but the observation checklist notes high student get distracted, and the documentation shows low completion rates of their chatbot modules, it means that this highlights a discrepancy; then it allows the researcher to investigate the nuance further by interviewing them, such as why the teacher could explain why they perceive success instead of low technical engagement. Then, for verifying documentation, the researcher cross-references both sources for examples, screenshots of the chatbot dashboard, the stages of practice, and the chat log showing the exact time of the lesson; then the claim is validated. Then, enhanced reliability can be seen from the stages of teaching English affixes, starting from the checklist confirming the stage was initiated; the documentation captures the chatbot's menu and welcome message; and the interview explains how the students reacted to it and how the English teacher guided and navigated the process. This study employed thematic analysis as proposed by [Braun and Clarke \(2012\)](#), which included several steps, such as identifying the stages of teaching affixes, analysing the data based on the observation checklist, documenting screenshots of chatbots involving students and teachers' navigation, and reporting patterns (themes) within qualitative data, including how the drill

and practice chatbot is explored, the international responsive digital learning, especially the teaching strategies and chatbot.

FINDINGS

The researcher examined and confirmed the findings with the participants based on the observation checklist and digital documentation of twenty-two students, including the process of deploying chatbots in teaching English morphological affixes. From the results of the observation checklist, a drill and practice with a chatbot that represented the activities is employed by master's students. It was revealed by the analysis and classification results which produced three themes, which consisted of (1) deploying a drill and practice with a chatbot, including *warming up*: introducing morphological affixes through song, *affixes identification* BASA (teaching and learning adverb affixes) and ASA (adjective affixes); *substitution and expansion phase*; *evaluation and review* section including quiz practices and fun fact; (2) teachers' ways in adopting chatbots' drill and practice in diverse classrooms; (3) culturally responsive on deploying a drill and practice. They would simply deploy repetition with variation using drilling and practicing a lot. It was used in the teaching-learning process of English morphological affixes. Then, from the results of the interview, two types of responsive, those are cultural competence and suffix exploration to get feedback, and interaction between English teachers and students based on considering culturally responsive digital learning.

1) Deploying drill-and-practice chatbots in teaching English morphological affixes

Based on the documentation of using drill-and-practice chatbots in teaching English morphological affixes, it consists of several stages. The first stage was warming up. In this phase, an activity began with singing a song to stimulate and introduce English affixation; it aimed for students to listen to the lexical items of nouns, adjectives, and adverbs.

Figure 2

Warming Up Using Song

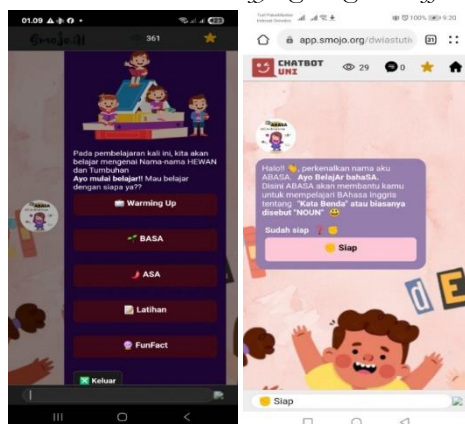


Learning English affixes through repetition with variety (drill-and-practice) with chatbots entails a methodical procedure that progresses from basic imitation to autonomous application, with the chatbot offering the model, signals, and feedback. How to deploy chatbots to implement repetition with task variations, by setting up the goals and introducing the procedure, then establishing specific goals, it seemed that this activity was meant to describe the particular affixes and rules that students must learn, such as the noun-forming suffix *'-ment'* or the negative prefix *'un-'*. It could be described as the affixes concept. The target affix, its meaning, grammatical function, and a few sample words

are introduced by the chatbot, like the prefixes '*un-*' and '*dis-*', which imply '*not*'. For instance, the morpheme *possible* became *impossible*; the other morpheme *agreement* changed into *disagreement*. Such activity repetition drills could be done by inviting the students' attention and asking them to repeat; they repeated by listening to an audio or text model of a word with the suffix that the chatbot offered, concentrating on form and pronunciation.

Figure 3

Main Menu and Identifying English Affixes

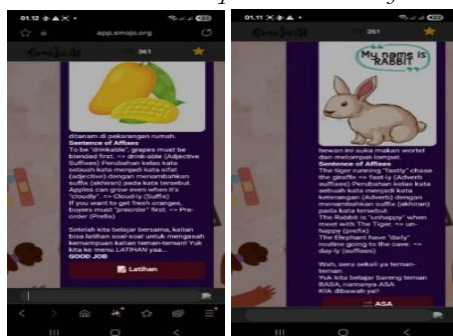


The second step was affix identification (ABASA and ASA in chatbot terms). In this case, the chatbots presented a series of words and asked the student to identify the base word and the affix (e.g., Chatbot: "What are the base word and affix in *'unhappy'*?" from happy is an adjective and add un as negative became *'unhappy'*"). The implementation of variation and transformation drills could be stated as the chatbot gave a base word and asked the student to apply a specific affix and use the new word in a sentence (e.g., Chatbot: "Change *'quick'* to an adverb using *'-ly'*"). Then, in contextual clues activities, the chatbot presented sentences with missing words and asked the student to fill in the blank with the correct form of a given word, requiring them to apply the correct affix based on the sentence's meaning and grammar.

In this context, the students were asked to identify the base word and affix in a series of terms presented by the chatbot (e.g., Chatbot: "What are the base word and affix in *'drinkable'*?""). The next stage was changes and transformations of drill-and-practice. In this activity, the students were given a base word and instructed by the chatbot to apply a particular affix and use the new word in a sentence (for example, Chatbot: "Change *'cloud'* to an adverb using *'-ly'*"; then they have to answer *'cloudly'*"). This meant that this activity was concluded as deploying contextual clues. In this phase, it could be inferred that the students also learnt the context and grammar of the sentence. The chatbot asked the smart students to choose the correct form of a given word. It was done repeatedly in order to help them understand word formation well.

Figure 4

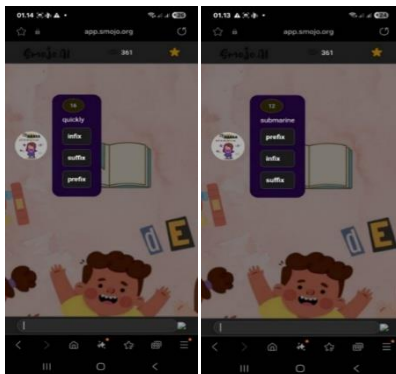
Substitution and Expansion Phase of Comprehending English Affixes



The third step was the substitution and expansion phase. In this process, the teacher aimed to ensure comprehension in a wider linguistic context through chatbots; it helped students either expand the sentence around the target word or substitute sentence pieces while maintaining the target word. This was followed by the teachers' feedback and communicative practice with their students individually. In this phase, it was given personalized phrases; the aim was to promote meaningful conversation and expression, and the chatbot invited students to construct their own phrases using various words that include the goal affix. Then, for the section on giving timely feedback to promote proper language use, the chatbot offered immediate corrections for spelling, grammar, and affixes, including derivational, inflectional, or word formation processes and models.

Figure 5

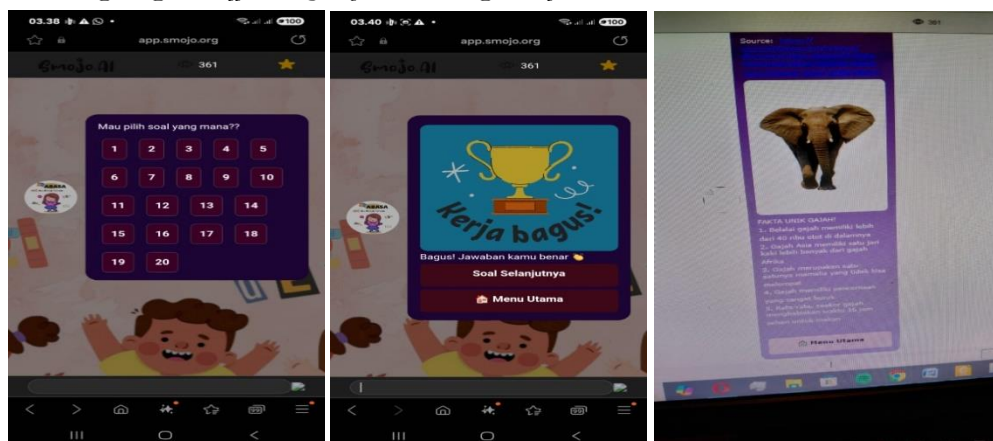
Substitution and Expansion Phase of Comprehending English Affixes



In the evaluation and review section, it was given test or Quizzes and fun fact, it was done to gauge mastery of the learnt affixes. The chatbot regularly gave brief practice in order to enhance students' lexical mastery. Then, in spaced repetition, the chatbot was deployed to enhance long-term memory retention. The system could be built to reintroduce difficult affixes and words at the best possible intervals. By taking these actions, the chatbot offered an adaptable, customized, and engaging platform for learning English affixes through methodical, repetitive practice. This stimulation improved the students' fluency practice.

Figure 6

Reviewing English Affixes Quiz and Adding Fun fact



To sum up, it can be said that the four stages were deployed in teaching morphological affixes.

2) Teachers' ways of adopting chatbots' drill-and-practice in diverse classrooms

The researcher presented the analyses of 22 international master's students who are also English teachers adopting chatbots' drill-and-practice morphological affixes in their diverse classrooms by

considering several aspects. It consists of three results: Technical and Pedagogical Adaptation, Structural Success, and Cultural Discontent, as shown in the checklist below.

Table 1

A Structured Way of Adapting Chatbots: Drill and Practice Morphological Affixes in Class

Dimensions	Observed Behavioral Indicators	Teachers Demonstrating (22)	Patters and Field Note	Results
Morphological Affixation Instruction	- Explicit modeling of prefixes/suffixes. - Guiding students to deconstruct root words via the chatbot.	18/22	Teachers actively used the chatbot to break down complex academic vocabulary, focusing heavily on derivational affixes.	Technical and Pedagogical Adaptation
Drill Practice Accomplishment	- Scaffolding chatbot error-correction loops. - Managing student pacing during repetitive exercises.	21/22	The chatbot served as a low-stakes grammar coach. Teachers intervened primarily when students hit repetitive errors.	Structural Succes
Culturally Responsive Digital Integration /chatbot	- Localizing chatbot prompts or examples. - Connecting target affixes to students' native languages (L1 cognates).	11/22	Highly variable. Some teachers seamlessly bridged the chatbot text with local cultural idioms; others strictly stuck to the chatbot's default English script.	Cultural Discontent

Based on [Table 1](#), it affirms that a powerful technical and pedagogical adoption of the chatbot for structural language learning, including drill-and-practice and morphology instruction, 18 and 21 teachers profitably are accomplishing these dimensions. Nevertheless, a compelling gap endures in culturally responsive on applying chatbot as digital learning. Then, 21 of 22 participants confirmed the great consent or conformity in morphology drills and recommended that chatbots are greatly practical for offloading mechanical, repetitive language tasks, such as affix memorization, from the teacher, permitting teachers to act as facilitators rather than instructors or lecturers. Next, 11 of 22 participants reported cultural discontent; the decline in culturally active integration demonstrates one pressure between automated digital tools and localized pedagogy. A lot of international teachers coped to create and build a regulated digital chatbot culturally applicable to their specific regional classrooms, examining and exploring the chatbot as a definite writing rather than a flexible device.

3) Culturally responsive to deploying drill-and-practice chatbots in teaching English morphological affixes

There are two themes of culturally responsive deployment of drill-and-practice chatbots in teaching morphological affixation. First, applying teaching strategies while the international master's students, as teachers, were teaching their students in the classroom using chatbots involves two teaching strategies: applying word formation and word translation. Secondly, students' cultural competence in exploring morphological affixes using a drill-and-practice chatbot.

a. Applying word formation process and word translation strategies

Based on the results of the interview, it was indicated that most of the students can memorize new words via affixation method practice as opposed to a word translation approach. When teaching vocabulary, 7 master's students typically employed the word translation strategy, which emphasizes meaning and spelling. One of the seven master's students, participant 11, stated:

“As teachers, the traditional word strategy invited my students to produce the translated forms accurately in response to drills; using a chatbot could strengthen their retention”

From this interview, it can be emphasized that traditional strategies rely on accurate drill responses. Incorporating tools like drill-and-practice chatbots promotes automated, repetitive practice that strengthens long-term vocabulary recognition. It seems there is a strong shift toward affixation, or a strong shift against affixation. Then 15 students focused on the word formation process and how to differentiate them. It means that it relies on the word formation process and teaching students how to differentiate morphological components. As participant 4 stated below:

“When teaching vocabulary, I, as an English teacher, initially notice that standard word-translation methods only scratch the surface. Then, in my opinion, I decided to concentrate heavily on the word-formation process and show students how to differentiate root words from their affixes in context.”

Based on the interview above, it reports that despite concentrating on root words, prefixes, and suffixes permit students to “figure out recent terms” enough rapidly. However, teaching the morphological forms in addition to the target words seems to be a significant and useful supplementary method of vocabulary acquisition. It appears that morphological awareness is important for the development of English vocabulary. All those responses represent international master's students applying the teaching strategy while they are teaching their students using a drill-and-practice chatbot. According to the interview analysis, among 22 master's students' responses when they are teaching English affixes, 15 deployed affix knowledge and explained it using a chatbot and drill practice in receptive vocabulary knowledge, and 7 master's students used productive vocabulary knowledge to teach English affixes to their pupils. According to participant 8:

“When I teach my students mostly, I deployed affix knowledge especially in order to enhance receptive vocabulary knowledge; I designed a drill and practice chatbot to promote sentences which learners'/language users must identify, match, and understand affixes in context. The repetitive exercise in the chatbot lets them practice affixes in a broader context.”

From the above interview, it was stated that applying culturally familiar context in chatbot drills helped students memorize new words through affixation much more practically than simple word translation. Furthermore, the teaching using target productive vocabulary was also conducted by another participant; for example, participant 19 responded:

“Using a chatbot achieves target productive vocabulary. Instead of only having my students recognize affixes, the chatbot drill invited them to generate words actively operating specific prefixes and suffixes in sentence constructing tasks. By using both methods, affix knowledge played as the main predictor of vocabulary gains, and their recognition became the second setting.”

From the above interview, it is acknowledged that chatbots help students actively construct words using affixes rather than only recognizing them. Additionally, most of the master's students' vocabulary knowledge was explained by deploying affix knowledge predictors. This was supported by the statement of participant 12:

“Concentrating on the word formation process and expressing to my students how they could determine and classify root words from affixes, which is also supported by considering their cultural background as one of my concerns.”

Based on this interview, it was admitted that chatbots move students past simple word recognition, drill push them to create several new sentences; they use prefixes and suffixes actively; and iterative chatbots explain complex words or word formation into parts. This is followed by the statement from participant 20, who stated that,

“In my chatbot setup, I programmed and constructed iterative drills which could prompt them to do several exercises such as breaking down complex words into prefixes, roots, and suffixes.”

According to the interview results, it was found that affix knowledge is a core predictor. This means that knowing affixes enhances vocabulary production and progress. Recognizing words becomes second nature or context for students; word formation determines most vocabulary for students; students could learn to separate roots from prefixes and suffixes. To sum up, the research affirmed that the students' receptive and productive vocabulary knowledge was significantly impacted by exploring their suffix knowledge and practicing more based on their global and local or domestic cultural competence. For example, English teachers may focus on the word formation process. They could use instruction with the cultural background of their students, and integrating drill-and-practice chatbots with root-word analysis enhances active output.

b. Cultural competence from exploring morphological affixes

From the analysis data relating to cultural competence and suffix exploration, it is proven from the interview excerpt of participant 21 who declared:

“The students’ receptive and productive vocabulary knowledge was essentially impacted when they were exploring suffix knowledge in depth and engaged or involved them in repeated practice.”

From this result of the interview, it is concluded that teaching English affixation through a chatbot is active, adequate, and practical when it is combined with deep suffix practice with familiar context, as participant 5 stated:

“What made an obvious difference was how I, as an English teacher, created the chatbots’ drill prompts to represent and reflect both global and local domestic cultural competence.”

To support the finding that the cultural context also impacts the students in teaching affixation, participant 8 also stated that:

“When a drill and practice chatbot deployed culturally familiar context to practice word formation, then the students memorized new words much more effectively through affixation than the students ever did through simple word translation.”

Then, based on the above interview, it was revealed that chatbot drill prompts introspective both global and local domestic cultures brought a clear difference in teaching. In conclusion, it can be said that there are two groups of international master’s students who responded differently. The first group conducted word formation and affixation, and the second group applied word translation in teaching morphological affixation. As English teachers, they conducted drill-and-practice chatbots in teaching English affixes, displayed and provided feedback to their students from international contexts. It was very beneficial. Additionally, they believed that students might practice the target language by using chatbots to mimic an interaction cycle. This means that this chatbot could help to conduct interaction between English teachers and students by considering culturally responsive digital learning.

DISCUSSION

Based on the analysis, this study's first research question focuses on how drill-and-practice chatbots are deployed well by master's students, involving four themes or stages, including first warming up: introducing morphological affixes through song; second conducting affix identification in BASA section (teaching and learning adverb affixes) and ASA (adjective affixes); then substitution and expansion phase; finally, evaluation and review section including quiz practices and Fun fact. By conducting this stage, not only did they improve English affixation, but their pronunciation skills also became clearer. These results further support Wang and Wen's (2025) assertion that AI voice chatbots could converse with students like native speakers, ensuring that English language learners receive authentic language input. It's interesting to note that the AI voice chatbot was able to identify the students' grammatical errors when they used verb tenses and quantifiers with various noun kinds. This result is intriguing because no such outcomes were reported in earlier research (Ahmad et al., 2018).

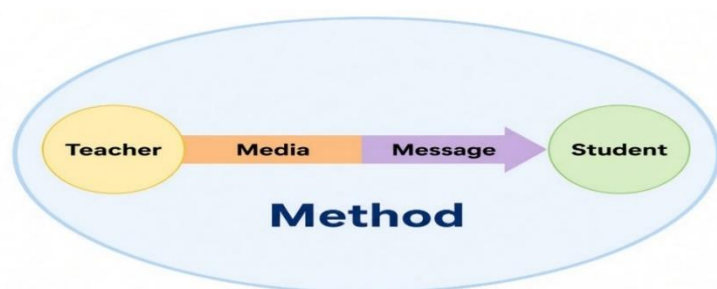
Furthermore, this result is consistent with the findings of [Mendrofa and Wijaya \(2022\)](#), who proposed that students can improve pronunciation skills by conducting repetition and drilling challenges and feel more comfortable speaking English when given more opportunities and exposure to the language. The second research question reveals that international master's students' ways of reinforcing precise drilling by adopting chatbots' drill and practice in diverse classrooms bolster drill-and-practice theory by operating drill-and-practice chatbots with observable support of vocabulary structures.

This study is in line with other recent studies ([Izon et al., 2022](#); [Klímová & Seraj, 2023](#); [Guan et al., 2025](#)) who suggest that operating chatbots as a medium of teaching vocabulary or morphological structures could be considered to examine the optimal design features of educational chatbots like drill-and-practice to get more adaptive, specific strategies. Nevertheless, they involve and impede culturally responsive digital learning, especially drill practice chatbot, chatbot as digital tools to be doubtlessly culturally responsive. Teachers cannot equitably “handle” the chatbot; they need to eagerly co-conceive or bundle the chatbot activities in local circumstances. This study reinforces preceding discoveries ([Abdallah, 2025](#); [Nguyen & Pham, 2024](#)) that constructing chatbots to dynamically tailor learning experiences based on the continuous analysis of individual learner data should consider several aspects, including adjusting students' local settings and culture, adapting content, pacing, and support mechanisms in response to a learner's evolving proficiency, specific error patterns, interaction history, and even stated preferences, and conducting continuous analysis of each data point to create suitable chatbots. The English teachers who succeeded did so by constructing “cultural bridges”-deploying the chatbot's affix drills but demanding that students translate or relate those affixes to their linguistic scheme. This result is consistent with the findings of some researchers ([Chiu et al., 2023](#); [Abdallah, 2025](#)) who recommended that integrating chatbots into local language curricula demands accurate, attentive scenario preparation, teacher discipline, instruction, and the advancement of pedagogical figures, and that the performance of teachers is critical in supervising students to deploy these devices appropriately and completely.

It affirms that drill-and-practice chatbots are strong, dynamic devices for morphological teaching and learning. Their adequacy or potency in distinct worldwide classrooms relies heavily on the teacher's competence to culturally negotiate the digital experience. The third research question is how culturally responsive international master's students who act as English teachers in the process of teaching and learning English morphological affixes perceived that most of them focus on how they apply word formation processes as a teaching strategy, and how culturally responsive international master's students as English teachers and their students are involved in teaching and learning English morphological affixes interactively by considering vocabulary knowledge and character recognition ([Pang & Son, 2024](#); [Hasumi & Chiu, 2024](#)). They also thought that chatbots were very contributive media in teaching English affixes. Although some of them required additional explanation, English teachers thought using chatbots to provide feedback to their pupils was very beneficial. It can be assumed that, in the teaching process, media functions as a tool that brings information from the source/sender (lecturer/educators) towards the receiver (students), whereas method is a procedure that helps or contributes to students in receiving and managing information to achieve the aim of teaching is shown in the picture below.

Figure 7

The Function of Teaching Media ([Asbupel et al., 2024](#))



(2024) emphasizes that culturally adaptive systems improve user engagement by acknowledging and respecting cultural nuances in order to make it easier for students to understand English affixes. The result of this study could bridge and embody the chance to deploy culturally responsive drill-and-practice chatbots as one of the digital learning media, and reversing digital learning, classroom interaction should be flexible, adaptable, supportive, and reassuring.

CONCLUSION

This study delved into the utilization of a drill-and-practice chatbot to provide for the teaching of English morphological affixes among 22 international master's students acting as English teachers. The findings confirm that the chatbot is a helpful medium, enabling teachers to integrate word-formation practice into their lessons while giving students useful feedback and opportunities to practice the target language. Teachers also perceived that the chatbot expanded social interaction and boosted a more lively, effective, and engaging learning environment. These results afford realistic awareness and insight into both the benefits and challenges of utilizing chatbots in EFL classrooms. Although the small sample size limits the generalizability of the findings, this study accentuates the potential and promise of AI chatbots to enhance morphological instruction and calls for future research with larger groups and more varied proficiency levels to further develop effective teacher–chatbot collaboration.

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CONFLICT OF INTEREST STATEMENT:

The author declares that there is no conflict of interest regarding the publication of this article.

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