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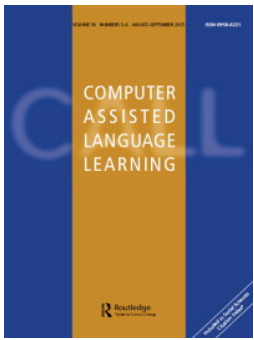
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Integrating critical corpus and AI literacies in applied linguistics: a mixed-methods study

Pascual Pérez-Paredes^a , Niall Curry^b  and Pilar Aguado Jiménez^a 

^aUniversidad de Murcia, Murcia, Spain; ^bManchester Metropolitan University, Manchester, UK

ABSTRACT

This study examines the integration of corpus literacy and critical AI literacy in language education. As part of a sequential mixed-methods design, undergraduate learners from a southern European university ($n=37$) participated in structured workshops. These workshops focused on the use of the corpus analysis software, Sketch Engine and the Generative AI tool, ChatGPT for vocabulary and grammar learning. Quantitative and qualitative data from pre-workshop surveys, hands-on workshop activities, and a post-workshop focus group reveal that while learners initially lacked familiarity with corpus tools, they came to recognise their value in developing corpus-mediated linguistic awareness. Conversely, ChatGPT was widely used by the learners but elicited mixed evaluations regarding reliability. The findings suggest that corpus literacy fosters critical engagement with language data, while generative AI tools present challenges related to over-reliance and a lack of truly personalised learning. Consequently, the study argues that developing corpus literacies can act as a means of developing critical AI literacies, which can enhance language learning for learners using AI. Specifically, these findings underscore the value that corpus approaches bring to language learning and the need for explicit training in AI tools used in autonomous language learning. Future research should explore scalable pedagogical models for this integration.

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Corpus literacy; critical AI literacy; corpus data; ChatGPT; language education

1. Introduction

Research in corpus applications to language education has long demonstrated the importance of corpus literacies for the successful implementation of data-driven learning (DDL; e.g. Boulton, 2021; Crosthwaite, 2024; O'Sullivan, 2007; Pérez-Paredes, 2022). Broadly, such views argue that learners and teachers must understand what corpora are, how they can be used ethically, and what interpretations can be reasonably made about language when using a corpus (Ma et al., 2024a). Corpus literacy, therefore, involves developing the skills required to navigate, analyse, and interpret linguistic data from corpora. It includes developing an understanding of frequency,

CONTACT Niall Curry  n.curry@mmu.ac.uk  School of English, Manchester Metropolitan University, Ormond, Lower Ormond St, Manchester, M15 6BX, UK

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collocations, and language patterns derived from authentic texts to equip learners with the ability to make data-informed decisions about language use (Pérez-Paredes, 2020). While corpus literacies are of evident value to language learners who engage in DDL, their value has been arguably heightened amid the upsurge in the use of Generative Artificial Intelligence (GenAI) tools in language education. With the need for situated AI literacies emerging across the literature (e.g. Curry et al., 2025; Ma et al., 2023; Strauß, 2021), there is potential for corpus literacies to provide learners with a foundation for verifying and contextualising AI-generated responses, using authentic language data to support or challenge AI outputs (Pérez-Paredes et al., 2025).

AI literacy, as it is emerging, refers to the ability for learners to understand, interact with, and critically evaluate GenAI tools, such as ChatGPT. It involves knowing how AI processes language and generates responses, as well its limitations. This allows learners to make informed decisions about how to use GenAI tools effectively (Pérez-Paredes et al., 2025; Pérez-Paredes & Boulton, 2025). By developing AI literacy, learners can better understand the mechanisms behind AI-generated language, allowing them to critically assess and refine the outputs produced by tools like ChatGPT. Already, researchers like Han (2024) have identified the need for a balanced and thoughtful integration of such technology in language education. Yet, effectively addressing this need is likely to be a challenge, as, historically, the integration of corpus-based pedagogy, for example, has been fraught with obstacles (Boulton, 2021; Boulton & Vyatkina, 2021; Crosthwaite & Wijaya, 2023; Curry & McEnery, 2025; Pérez-Paredes & Boulton, 2025; Sun & Mizumoto, 2025). Arguably, bringing together corpus and AI literacies can create a more comprehensive learning environment where learners leverage both AI and corpus data to enhance their understanding of language use, critically engage with AI-generated content, and develop language skills and wider, socially situated, digital literacies. This approach may allow us to draw on learners' extant knowledge of corpus literacies to advance both corpus and AI applications to language education and facilitate literacy development and transfer (Pérez-Paredes et al., 2025).

This study is theoretically situated at the intersection of corpus literacy and critical AI literacy (Pérez-Paredes et al., 2025). Corpus literacy—understood as the ability to interrogate, interpret, and contextualise authentic language data in corpora (Charles, 2022, Ma et al., 2023; McEnery & Brezina, 2022; Pérez-Paredes, 2020)—has long been promoted in data-driven learning (DDL) as a means of fostering learner autonomy and analytical precision (Boulton & Cobb, 2017; O'Sullivan, 2007). In contrast, AI literacy is still emerging, particularly in applied linguistics, where its scope often lacks pedagogical anchoring (Curry et al., 2025; Han, 2024; Ma et al., 2024a; Strauß, 2021). As learners increasingly engage with generative AI tools, often without sufficient critical awareness, there is a risk of replicating surface-level interactions that reinforce dependence and inhibit reflection (Curry et al., 2025; Dornburg & Davin, 2024). Theoretically, we argue that corpus literacy offers a transferable epistemic stance for working with AI. Arguably, both corpora and GenAI require users to engage with language data, evaluate output against usage, and maintain an interpretive stance that foregrounds source, frequency, and linguistic variation. Therefore, we treat corpus and AI literacies as potentially synergistic domains where criticality, data reasoning, and language awareness converge. In advancing this

integrated framing, this study challenges the current tendency to treat AI tools as neutral or pedagogically self-evident, instead proposing that literacies developed through DDL can serve as a critical safeguard from uncritical AI use. With this in mind, our study is guided by the following exploratory research questions:

- How do learners make use of corpus tools and AI tools to support their language learning?
- How do learners perceive the affordances of corpus tools and AI tools to support their language learning?
- What potential do corpus literacies and critical AI literacies have for shaping one another?

The following section presents the materials and methods, outlining the context, research design, and analytical approach of this study. This is followed by a presentation of the results in [Section 3](#) and the discussion and conclusion, in [Section 4](#).

2. Materials and methods

This section presents the context and learner profile in [Section 2.1](#). This is followed by a detailed description of the research design in [Section 2.2](#) and the analytical approach in [Section 2.3](#).

2.1. Context and learner profile

This research is situated in a HE institution in southern Europe with over 30,000 learners and 2,500 staff, offering education in diverse fields. This specific English-medium education in multilingual university setting (EMEMUS) is strongly monolingual, with most learners being Spanish L1 speakers (Curry & Pérez-Paredes, 2021; Pérez-Paredes & Curry, 2023). As such, English primarily functions as an academic training tool, often confined to specific classes and programmes.

The undergraduate learners who participated in the research were enrolled in a 4-year program on English Studies. The participants were selected through purposive sampling, a non-probability method where individuals are chosen based on both their meeting specific selection criteria and their availability. While purposive sampling may introduce biases and limit the generalisability of findings, it is a commonly employed technique in applied linguistics research (Loewen & Plonsky, 2017). At the time of the study (2024–2025), the learners were in the first term of their second year and were taking the module, *Lengua Inglesa III* (English Language 3). In this context, there is a need for localised and situated digital and AI literacies that foster better informed thinking, better problem-solving skills, and increased creativity in language education and applied linguistics (Pérez-Paredes et al., 2025).

Learners participating in this module aim to acquire a C1.1 level competency in the English language. Prior to the start of the course, the learners took the *Cambridge English Language Assessment* (Cambridge English, 2024) online placement test, designed to classify their language proficiency in terms of the *Common European Framework of Reference for Languages* (CEFR). This test grades learners' proficiency,

with a top score of 25 corresponding to a C2 level. The average mark that the learners obtained was 20.35, equating to proficiency somewhere between B2 and C1. The average age of the learners involved in this study was 19.4. As will be detailed in the following section, this study contained several phases, with a differing number of learners participating in each phase. For clarity, we present the sample sizes within the description of each phase.

2.2. Research design

The aim of this study is to investigate learner engagement with corpus linguistic and GenAI tools as a means of identifying the perceived affordances of these tools for language learning and the potential affordances of simultaneously developing corpus and AI literacies to facilitate language learning. Specifically, the study uses a sequential mixed-methods research design (Cara, 2017) to investigate Higher Education (HE) English language learners' use of corpus and GenAI tools to complete vocabulary and grammar activities. The sequential mixed-methods design offers methodological flexibility, allowing one phase to inform the next. However, it demands careful alignment between phases to ensure analytical coherence. For exploring this under-researched topic on the actual use of corpus and AI data among learners, the sequential mixed-methods design was implemented to enhance the research by integrating numerical trends with personal experiences (Cara, 2017) and to allow us to triangulate learners' perspectives on the affordances and limitations of corpus and GenAI tools for language learning through a two-phase study.

2.3. Phase 1

In Phase 1, the participating learners ($N=41$) completed a survey. The survey was designed to access their language learning experience and their attitudes towards digital learning resources, with a specific focus on corpus and AI tools. The survey questions are presented in Appendix A. These same learners ($N=41$) were then given two 50-minute sessions, with one focusing on corpora for language learning and another on GenAI for language learning. Appendix B shows the focal points of both training sessions.

These training sessions were followed by three workshops with learners ($N=37$) in which they used Sketch Engine and GenAI tools to complete activities that involved the analysis of vocabulary and grammar. The activities were inspired by Williams (2022) and Kemp and Timms (2022) and aligned to specific module objectives. Broadly, the former activity focused on the use of corpus tools to learn vocabulary pertaining to qualities, personality traits, and relationships and the latter explored the use of GenAI to learn about active and passive voice. Appendix C offers further details on these tasks. The hands-on activities were completed by the learners using their own devices during face-to-face sessions. Throughout the session, the researchers monitored the learners' activities. Sketch Engine was chosen as the university in which the study was conducted provides free access to staff and learners. Also, the Sketch Engine web interface provides immediate access to both a variety of corpus methods and different corpora (Pérez-Paredes, 2020).

chauvinistic, clench, conscientious, diffident, distrustful
down-to-earth, gullible, haughty, infatuate, in high regard,
pithy, pout, pushy, scowl, shrewd
shrug, taciturn, thick as thieves, thrifty, well-matched

Figure 1. Vocabulary chosen.

People around the world are appalled by Trump's win, but women _____ (Grip) by a visceral horror

Figure 2. Sample excerpt.

In the session elements that pertained to the use of corpus tools, the learners were asked to obtain a word sketch (*via* Sketch Engine) of a selection of adjectives, verbs and expressions that denote positive and negative qualities, personality traits, and relationships (Figure 1). The following vocabulary were chosen:

Using the word sketch, the learners were asked to analyse the words with which each of the node words tends to appear. They were also instructed to capture two or three of these words, the most frequent context or sense in which the node was used, and whether the node had a positive or a negative semantic prosody, based on corpus evidence. The learners were instructed to use the enTenTen21 English corpus and to limit the results to the .uk domain.

During the GenAI facets of the sessions, the learners were asked to explore the use of the passive voice in news language. Learners were also asked to offer their reflections on the use of these GenAI tools, specifically Copilot and ChatGPT, for language learning and language study more generally. It should be noted that all learners selected ChatGPT for these tasks. As part of the activity, the learners were given five excerpts from British newspapers. Part of their task involved writing a verb, presented in brackets next to a gap in the text, in what they deemed to be the most appropriate voice (Figure 2).

The goal of this task was to put their knowledge of the passive and active voice into practice. Throughout the session, the learners answered four questions related to the task, designed to access how sure they were about the answer returned by the GenAI tool, their perceived alternatives for the verb in brackets, their reflections on the prompt they used, and what they learned after interacting with the GenAI tool. An open wrap-up question was then completed to get any final perspectives that the learners wished to share. The combination of survey, training, and workshop data offered qualitative and quantitative insight into the use of corpus and GenAI tools by the learners.

2.4. Phase 2

In Phase 2, a follow-up focus group was conducted with a smaller selection of the learners who participated in Phase 1 ($N=6$). The focus group was formed of one male and five female self-selecting learners. The focus group was designed to collect

Table 1. Focus group demographic information.

Learner ID	Age	Sex	Placement Test Score
Learner 04	19	Female	24/25
Learner 22	19	Female	17/25
Learner 13	19	Female	19/25
Learner 23	19	Female	22/25
Learner 37	19	Female	18/25
Learner 01	19	Male	21/25

Rating	Write 2 or 3 words with which this adjective can be strongly associated.	What is the most frequent context and sense where the adjective is used?	Is it a positive or a negative quality?
0	The student did not use any of the data provided on Sketch Engine.		
1	The answer is partially supported by evidence from Sketch Engine.		
2	The answer is fully supported by evidence provided on Sketch Engine.		

Figure 3. Sketch Engine activities evaluation rubric.

qualitative data to explain the results from the first phase in more depth, elicit further insights into the learners' experiences with corpus and GenAI tools, and address any shortcomings of or questions arising from the survey data. The age, sex, and placement score for these learners is presented in Table 1.

The focus group took place online *via* Zoom and was recorded and automatically transcribed. The automatic transcription of the focus group was manually edited by the researchers and then analysed.

In terms of ethics, this study adhered to the British Educational Research Association's (BERA) ethical guidelines (BERA, 2024) and EU data handling regulations, ensuring respect for participants' rights, dignity, and privacy through informed consent procedures. Transparency and integrity were maintained in interactions with the learners and the researchers set out to report the findings accurately with a commitment to honesty and clarity.

2.5. Analytical approach

For Phase 1, survey responses were analysed using descriptive statistics. Subsequently, the learners' answers to the activities in the workshops were manually analysed by the researchers. For the corpus activity, learners responses were graded on a scale of zero to two, with zero indicating no evidence of corpus use and two indicating that the response is fully supported by the use of corpus data. The evaluation criteria were agreed upon by the researchers and each of the evaluations was revised by the members of the research team, using Stemler's (2004) consensus estimates. Figure 3 shows the rubric used to evaluate the corpus activity and Appendix D offers some sample answers provided by the learners and evaluated by the researchers for this same activity.

Although the evaluation of the answers was qualitative, means for each question and word were computed and total score ranging 0–6 was calculated for each of the words analysed by the learners. In the interest of space, five of the words

analysed with the word sketch were randomly selected for elaboration in the results section. These results shed light on how learners use corpus tools to solve language learning problems and their capacity to better ‘know’ a word through the company it keeps.

The GenAI activities were designed in line with the ‘Use of English’ contents of the module syllabus. In the preparatory workshops, learners were advised on the use of appropriate prompts to retrieve more accurate responses when working with the GenAI tools. The subsequent GenAI activities were evaluated following a qualitative, inductive approach. Each GenAI activity consisted of a task related to language learning and a response to four questions concerning the process of obtaining the answer using ChatGPT (Figure 4).

The results are organised according to the range and variation of responses produced by the learners for these questions, offering insight into learners’ use of GenAI tools for solving language learning problems. The reflexive element also sheds light on the learners’ evaluation of GenAI as a language learning tool—a perspective that remains somewhat under-investigated when compared to corpus use by learners.

For Phase 2, the focus group was analysed using a combination of critical grounded theory annotation and keyword analysis, as advocated in Curry and Pérez-Paredes (2023). First, keywords were extracted, comparing the corpus of the focus group with a corpus of EMI professionals (Curry & Pérez-Paredes, 2021; Pérez-Paredes & Curry, 2023). This ensures that the keywords identified were related to the content of the discussion (i.e. AI and corpus linguistics) and not institutional discourse. Significant keywords were then used as field codes to serve as a way into the data and were attributed to every turn in the data in which they occurred. Next bottom-up coding was used to create thematic codes in and around every site in which a field code was identified. These macro codes pertain to high-level coding (e.g. advantages of AI, weakness of AI). The thematic codes were then used to create focused codes

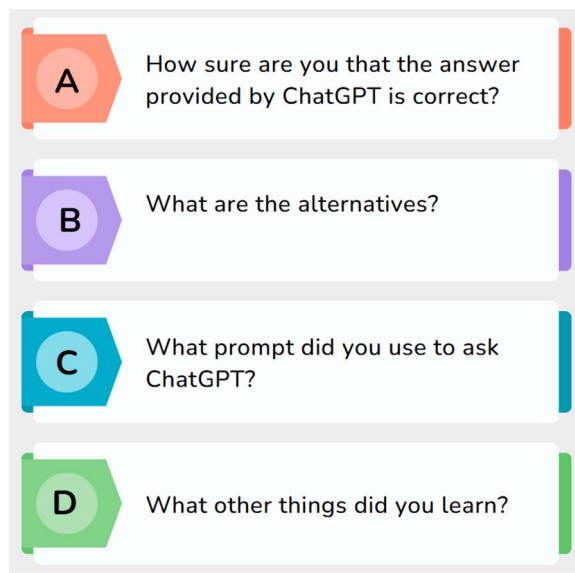


Figure 4. Questions raised.

(at the meso level), designed to offer a nuanced interpretation of the thematic codes. In the coding, we also used Stemler's (2004) consensus estimates to ensure reliability by discussing each code applied and determining, collectively, a final set of thematic codes. The goal of consensus is not to determine how similar our coding was. Rather, we sought to bring together all of our codes and use this to arrive at a consensus. This methodology provides a systematic, replicable, and nuanced approach to analysing qualitative focus-group data devoid of predetermined categories. By integrating corpus linguistics with grounded theory, the study bridges quantitative computational techniques with qualitative thematic interpretation, offering a flexible but structured way to explore complex educational discourses.

3. Results

This section offers an overview of the results from the initial survey, in [Section 3.1](#), as well as from the hands-on sessions with corpus data and AI in [Section 3.2](#). This is followed by the results of the focus group analysis in [Section 3.3](#).

3.1. Survey responses

In the initial survey before the training and the hands-on sessions, learners shared their perceptions on their own language proficiency, the use of technology, and what they think is needed to learn a language. In terms language proficiency, 59% said their level was B2 and 39% stated it was C1, indicating that these learners perceived their level of English as being quite high. In total, 74% of the learners said that technology was either absolutely essential or very important for their language learning, thus indicating that language learning technology should play a critical role in their learning experiences (Godwin-Jones, 2019). In terms of materiality, 65% noted that mobile devices were very important or absolutely essential for language learning, which may reflect an openness to autonomous and socialised learning (Pérez-Paredes & Zhang, 2022). While the mode of delivery was seen as important, the learners also placed importance on the quality of the language being taught, with 75% of learners identifying the importance of authentic language in the learning process. This raises questions for the use of technologies like GenAI and corpus tools, given the formers' capacity to produce language that is markedly different to human language (Sardinha, 2024) and the latter's focus on the representation of naturally occurring language (McEnery & Brezina, 2022).

When questioned on the use of AI for language learning, approximately one in four learners stated that they had never used ChatGPT or any other (Gen)AI tool to learn a language. Almost 30% of learners said that they use ChatGPT sporadically, mainly for translating texts, checking grammar, finding synonyms, or clarifying doubts about language structures. While some saw it as a helpful way of supporting their academic activities but not a primary learning tool, a notable group saw ChatGPT as indispensable for their studies (30%). These learners appreciated its ability to provide quick explanations, correct grammatical errors, expand vocabulary, and help structure their writing. Some mentioned that GenAI tools can offer personalised feedback and opportunities to practice conversational language (15%), making language

learning more interactive. Regardless of usage, all learners had some familiarity with GenAI tools and were aware of their potential for use in educational contexts.

Conversely, the learners surveyed had never used corpora for language learning. However, 47% of the learners recognised the potential benefits of corpora, even if they had not used them personally. Those who acknowledged their usefulness highlighted the potential of corpus approaches to language education for providing real-life language examples, helping with learning collocations, and facilitating the acquisition of idiomatic expressions through contextual exposure. The most striking aspect of these responses is that most learners had never used corpora and were unfamiliar with their purpose. These opinions confirm that corpora were not widely introduced in their language learning or that learners were not encouraged to use them as a resource before this study.

Overall, what emerges from the analysis of the survey is a mixed picture. Learners value technology for language learning and signal the need for both quality resources and linguistic input. While the learners are more familiar with AI than corpus linguistics, their evaluations are more heterogeneous, with critical perspectives on the affordances of (Gen)AI tools being offset by their potential, for some. While learners were less familiar with corpus approaches to language learning were, those who were familiar were more consistently positive, raising a question as to whether a balanced familiarity with both corpus and (Gen)AI tools would offer a more valuable insight into their perceived potential for language learning.

3.2. Corpus and GenAI activities

As noted in Section 2.3, five of the words analysed with word sketches by the learners were randomly selected for close analysis and manual evaluation. Table 2 shows the means for these five activities.

The analysis of the learners' performance in this task shows that, in the case of *chauvinistic*, *shrewd* and *haughty*, working with Sketch Engine allowed them to correctly identify the words with which the searched words are usually associated as well as their context of use. However, in the case of the fourth adjective, *well-matched*, as well as the only verb analysed in detail here, *scowl*, the learners' responses revealed difficulties of a different order.

The learners' answers can be grouped into three distinct categories. In the first of these, their responses include reference to language that is evident in cursory searches on Sketch Engine. For example, in the case of *chauvinistic*, one of the learners identified that the adjective collocates with *nationalism*, *xenophobic*, and

Table 2. Learners' average scores for five randomly selected words.

	Question 1 Write the 2 or 3 words with which the node word can be associated	Question 2 Provide the most frequent context and sense where the word is used	Question 3 Is it a positive or a negative word	Average Total
Chauvinistic (Adjective)	1.8	1.7	1.8	5.4
Shrewd (Adjective)	1.8	1.7	1.7	5.2
Haughty (Adjective)	1.9	1.7	1.8	5.4
Well-matched (Adjective)	1.6	1.4	0.3	3.4
Scowl (verb)	1.1	1.1	0.3	1

sexist, while another chose *nationalism*, *arrogant* and *misogynist*. These are all words that appear on word sketches of *chauvinistic* in the specified search. Interestingly, the learners appear to consistently select cognate words in their L1s and words with a very similar collocational profile when offering their responses. In the second category, we find answers that seem correct and appropriate but are nevertheless not supported by the results obtained through the Sketch Engine search. Even if the learner were to change the display options of the answers and choose the frequency-based display option instead of the LogDice score, which was shown in the training session, the answers would be impossible to justify. Some of the learners offered, for example, *witty* and *astute* which were not frequent collocates. Finally, a third taxonomy of responses offers seemingly acceptable answers which demonstrate a lack of criticality. With the verb *scowl*, it is not uncommon to find answers such, ‘The verb “scowl” can be associated with subjects such as “Zelda” and “Fayette”’, which, according to the Sketch Engine metadata, situates the use of the verb in the context of ‘Zelda - Resolution: A Zelda fanfiction’, by J.A. and K. Singleton. In other words, what this type of response suggests is that while the identification of collocates is easily retrievable from the user interface, it is evident that most of the learners in this experiment had problems in identifying that some of these collocates are simply proper nouns which, due to the collection of texts in the corpus consulted, offer a granularity of results that may not be useful for the teaching or learning process. This raises questions surrounding the learners’ corpus literacies (O’Sullivan, 2007). The proper nouns in the word sketch are incidental, what is not is the fact that *scowl* tends to appear in narrative contexts, something which was not suggested in any of the replies. Figure 5 shows the collocates for *scowl* in the .uk subcorpus of the enTenTen21 corpus, exemplifying this narrative usage and the presence of proper nouns. These results therefore suggest that while the identification of collocations and contexts of use was successful in most of the cases analysed, in some of them, the task would have required more criticality on the part of the learners.

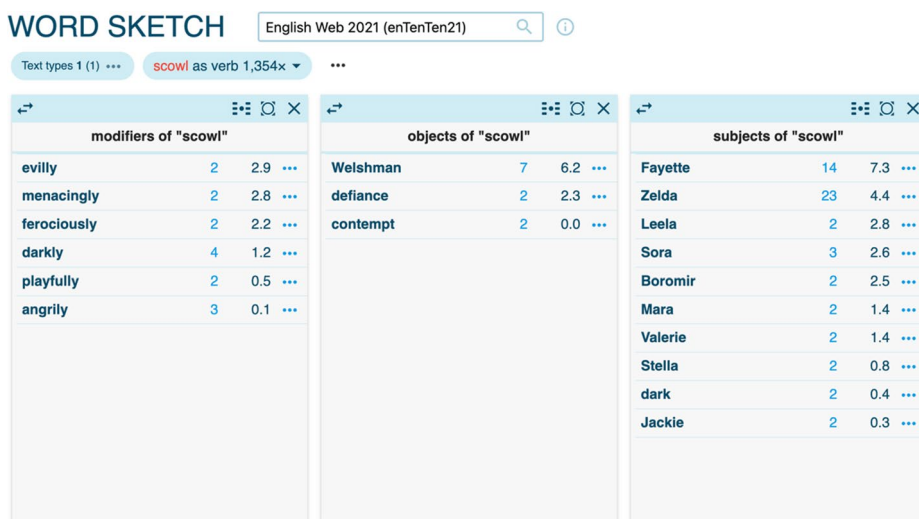


Figure 5. Word sketch for *scowl*.

For the GenAI activity, learners completed the four reflective questions and a final wrap-up question to evaluate the affordances of ChatGPT for supporting language learning. For questions A to D, each data matrix offers 185 possible answers, while for the wrap-up question, 37 different answers are provided by the learners. In total, 54% of learners spent more than 30min on the activity, 27% spent between 20 and 30min on the activity, with the remaining learners taking fewer than 20min to complete the task.

Question A, ‘How sure are you that the answer provided by ChatGPT is correct?’, elicited reflections from the learners about the degrees of trust they had in the quality of the GenAI tool’s output. While a small number of learners did not offer any evaluation of the AI tools trustworthiness ($N=3$), the remainder ($N=34$) signalled some degree of certainty about the answers ChatGPT provided. Though most learners, provided limited detail in their explanations of their trust in the tool, broadly, the responses varied between absolute explicit certainty in the quality of the tool to more tentative positions, signalling a mitigated trust in ChatGPT’s responses. Overall, as Table 3 indicates, 32.96% of learners feel some degree of certainty that the GenAI tool’s output was trustworthy. Example 1 demonstrates how learners explicitly signalled certainty surrounding the correctness of the tool’s response. The remaining responses did not explicitly address the learners’ degree of certainty, but instead offered implicit evaluations, such as a focus on the verb voice, as well as assessments of the grammatical structure discussed, scepticism towards the tool used, and in some cases disagreement, as can be seen in Examples 2–3.

Question A’s responses offer some insight into learners critical engagement with the technology. While in the survey data, these learners expressed some reservations around the use of GenAI tools, in practice, they seem to show some degree of trust in ChatGPT.

Question B ‘What are the alternatives?’ focused on the alternatives to the sentence that the learners proposed as a correct answer. The length of their answers varied, and, generally, they relied heavily on what ChatGPT produced. The distribution of the kinds of answers offered by the learners is presented in Table 4.

Arguably, what is most noteworthy in these responses is the variety apparent in ChatGPT’s output. When asking ChatGPT for alternatives to the initial response it produced, in some cases, the tool offered a modulation of voice, shifting from passive to active voice, as in Example 4. For others, as in Example 5, the tool opted to recreate the sentence with synonyms of *expose*. This variety of response continued with some learners receiving explanations, new sentences altogether, and metalinguistic discussions, as Examples 6–8 demonstrate. In the case of incomplete responses, we noted that some learners reported that ChatGPT did not give alternatives, as illustrated in Example 9.

Table 3. Categorisation of answers to Question A.

Explicit Confidence Level	Somewhat sure	12.97%
	Sure	11.89%
	Pretty sure	4.32%
	Very sure	3.78%
	Not sure	0.54%
No Answer		9.19%
Other Answers	Certainty conditioned by other factors	57.31%
	Doubts and negative responses	
	Grammatical and technical analysis of the response	

Table 4. Answers to question B.

Category of response	Definition	Percentage
Changing from active to passive	Learners state the alternative sentence should be in the passive voice	17.06%
Changing from passive to active	Learners state the alternative sentence should be in the active voice	7.06%
Lists of synonyms or word variations	Learners provide synonyms of the verb in brackets	22.77%
Explanations of the reformulation approach	Learners do not provide an alternative, but an explanation.	18.97%
Complete alternative phrases	Learners provide the sentence without any reference to the voice used.	15.18%
Metalinguistic responses (comments on ChatGPT)	Learners refer to their interaction with the tool instead of providing an alternative	11.38%
Ambiguous cases	Ambiguous answers, not complete, not related to the task or no answer	7.58%

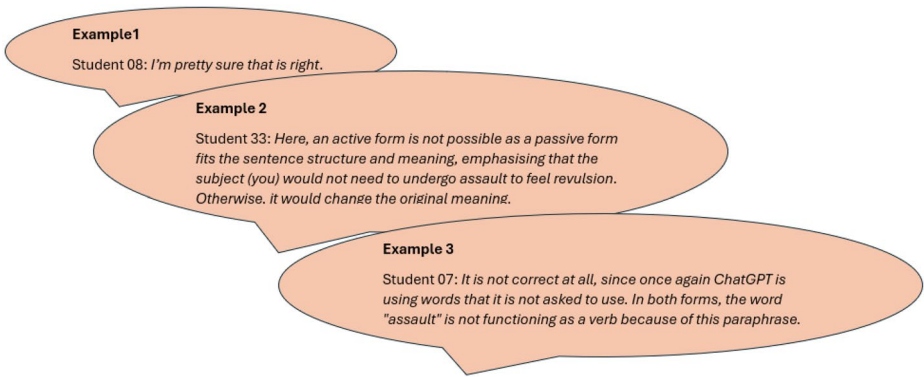


Figure 6. Examples 1–3.

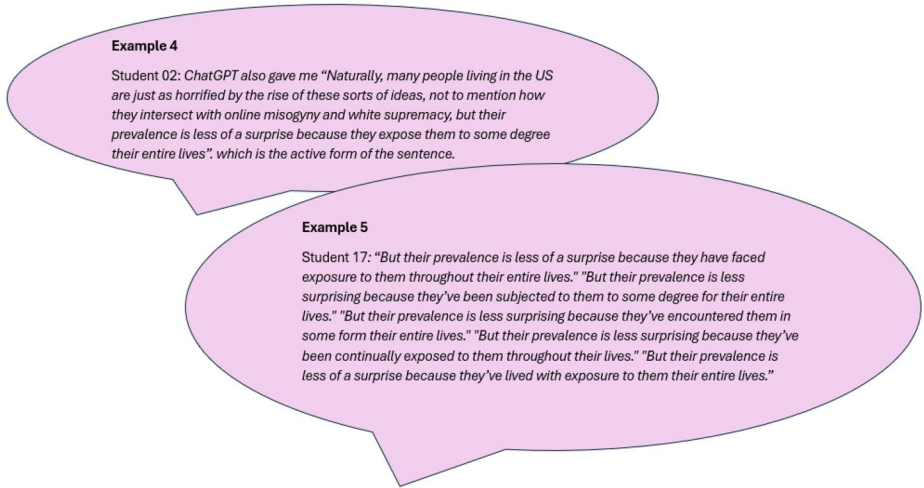


Figure 7. Examples 4–5.

The variety of responses here is worthy of consideration. While the capacity for such non-deterministic tools to create and recreate content is lauded as one of its core strengths (Dornburg & Davin, 2024), it may be that it also poses a challenge

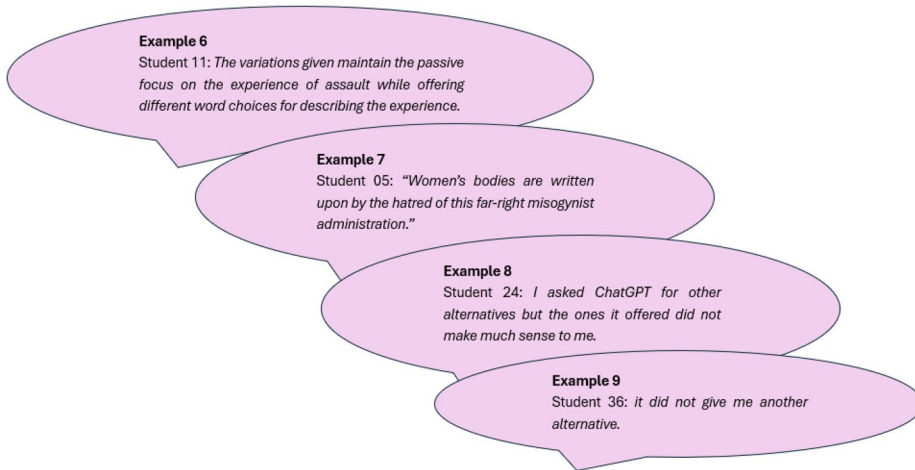


Figure 8. Examples 6–9.

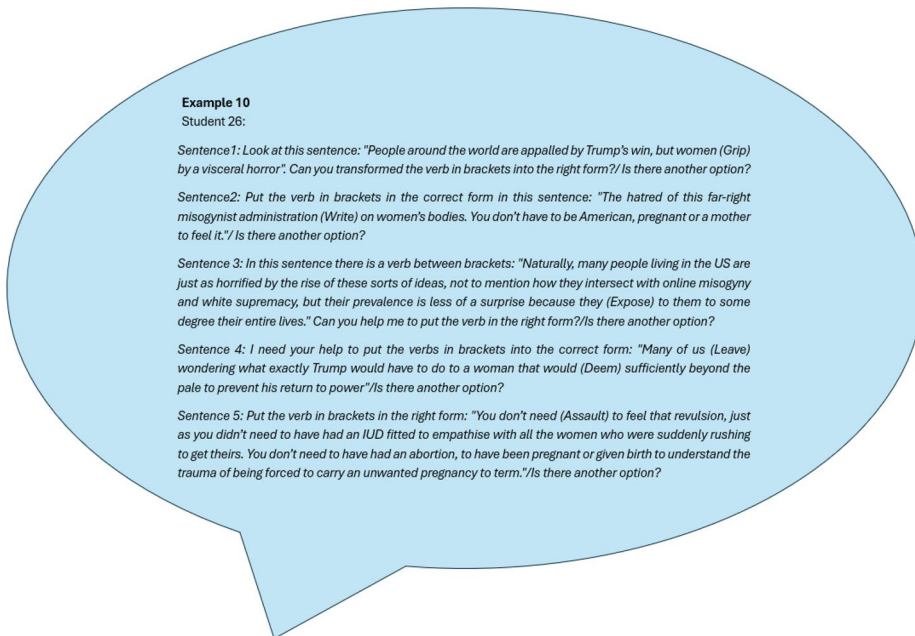


Figure 9. Example 10.

for language learning contexts. In DDL, the role of the teacher shifts from the source of knowledge to facilitator (Pérez-Paredes, 2022). Yet, the variation in the responses here may pose a practical and material challenge to teachers wishing to facilitate language learning. In a class dedicated to a focus on the passive voice in which learners are using ChatGPT to study language, the potential for each learner to receive different input means that teachers may be faced with questions outside of the scope of the lesson. Arguably, this can be challenging for teachers with different levels of experience or language proficiency—a problem evident in the

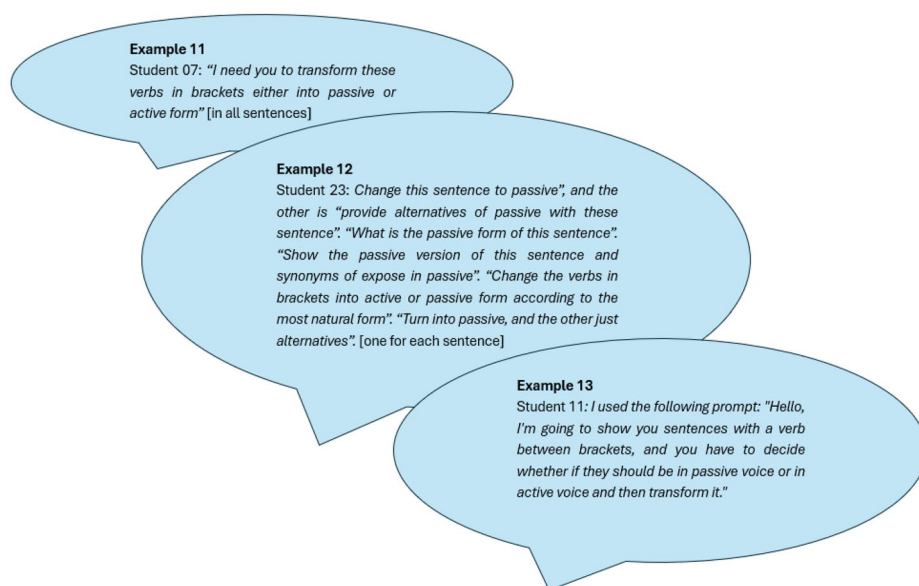


Figure 10. Examples 11–13.

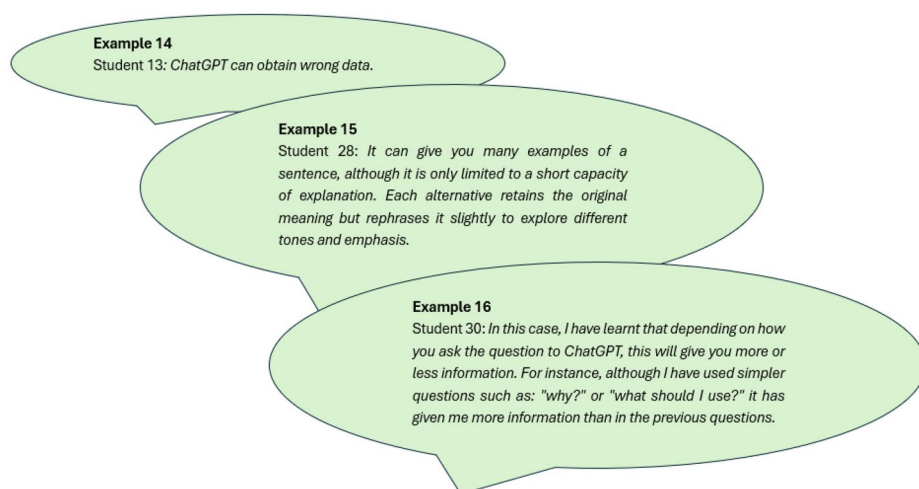


Figure 11. Examples 14–16.

use of earlier intelligent CALL tools (e.g. Curry & Riordan, 2021). This variety could also be host to erroneous responses and can create confusion among learners who are getting different answers to the same question (Dornburg & Davin, 2024). Likewise, if the class content is shaped by a wider curriculum that is linked to an assessment (as this one is), some learners could be disadvantaged (Prain et al., 2013) if the class content moves away from the language on which they will be assessed. Moreover, while some learners may respond well to metalinguistic information as part of their language learning experience, other may not. Teachers typically know their learners' needs and the individual differences that shape their

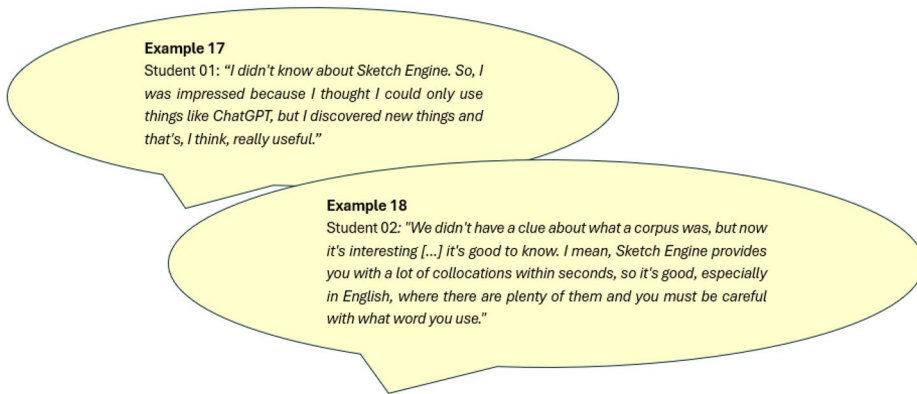


Figure 12. Examples 17–18.

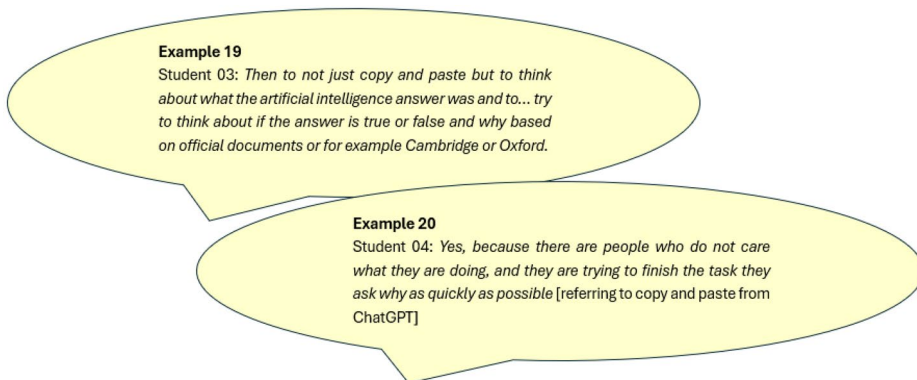


Figure 13. Examples 19–20.

language learning experiences. This in turn allows them to develop specific and supportive classroom cultures (Dewaele, 2009). The AI tool studied does not use such reasoning to support its choices. This raises questions about the inherent value of AI in education—a topic that will likely be explored in much greater depth over the coming years.

Question C, ‘What prompt did you use to ask ChatGPT?’, addressed the prompt used for each activity. Although most of the learners introduced a prompt that was repeated with slight variation in all the activities, some of them used different prompts for each sentence, as illustrated in Example 10. This signals the potential for different critical AI literacies (Pérez-Paredes et al., 2025) among the learners whereby some learners’ technical understanding of the GenAI tool allowed them to seek more comprehensive responses through prompt engineering and reshaping.

Generally, the prompts used by the learners in this activity followed various patterns. This included the use of direct instructions, asking ChatGPT to write something explicitly, as well as requests for linguistic transformations that focused on changing grammar or the verb tense or voice, *inter alia*. Learners also used

direct prompt citations, quoting the exact words used, or brief explanations, mainly related to the repetition of the prompt pattern, as shown in Examples 11 and 12. Interestingly, some learners produced prompts that reflect a more conversational style. In this way, the learners appear to be interacting socially with ChatGPT rather than simply giving direct instructions or commands, as illustrated in Example 13. learners submitted incomplete or unclear prompts, using abbreviated language, or making indirect reference to the prompt. In the case of the latter, learners appear to describe the purpose of the prompt instead of quoting it. Finally, some learners wrote unrelated responses, where a prompt was not indicated.

What emerges from a review of the learners' prompts is a varied approach to questioning. While such practices pose benefits for the development of critical thinking skills (Creely, 2024), there is also a risk that a poor-quality prompt will result in a poor-quality response, creating potential for divide and exacerbated disadvantage (Prain et al., 2013). In the context of corpus-based DDL, learners are encouraged to engage openly with the data. However, the restrictive nature of the tools can (arguably helpfully) limit the range of activities the learners can perform when studying a chosen language item. In a sense, queries through concordancing, work sketches, and keywords act as predefined prompts, allowing learners to navigate the data using tried and test practices. In shifting towards the use of AI, it is clear that prompt writing plays a critical role in governing the input learners receive. Thus, training in prompt engineering and the use of prepared prompts may be necessary to ensure teachers have sufficient oversight in the language classroom. Though the potential issue of non-deterministic responses would likely persist.

Question D, 'What other things did you learn?', tried to make the learners think about their own language learning. Most learners (approximately 94%) indicated that the process of engaging in these training sessions and workshops afforded them the opportunity to acquire new vocabulary, learn grammar rules, and get explanations about language. For some, the learning experience revolved around better understanding the effectiveness of the GenAI tool, while for others, they noted that they learned 'nothing new'. Interestingly, many answers were not related to learning itself, but to ChatGPT as a tool for learning. Reflecting on the previous tasks and questions, the learners signalled a range of affordances for the use of such tools, addressing the tool's capacity to engage with language patterns, approaches to generating responses, and accessibility. In some cases, these responses were negative, as reflected in Example 14. While for others, it was somewhat more mixed, as can be seen in Examples 15 and 16.

When we compare both the survey responses and the responses to Question A, B, and C, we begin to see quite a confusing picture. Learners were sceptical of the affordances of GenAI tools initially, but as they began to use them, their confidence in their capacity to produce a correct response rose. Yet, as we review the varied nature of the responses as well as the differing approaches to querying through GenAI, it seems that the learners are experiencing the tool quite differently. This may explain this varied response from learners, when asked to reflect on their own language learning experience.

The task ended with the open question, 'Consider your experience above. How can ChatGPT help your acquisition of English in general and the acquisition of grammar in particular? What are the limitations? What the strong points?'. The vast

majority offered personal insights regarding the perceived affordances of ChatGPT for language learning, highlighting its potential effectiveness in vocabulary building, grammar correction, and instant and interactive learning. However, they found limitations related to accuracy and reliability, emphasising the need for cross-checking the information retrieved with reliable sources—an example of an emerging critical AI literacy (Pérez-Paredes et al., 2025). Learners seemed to be wary of the results returned by the tool, suggesting they should check with more ‘traditional’ resources. The learners also highlighted the limited spoken language practice observed, as the tool, in their view, cannot help with pronunciation or listening comprehension, as well as other spoken facets of language learning. In addition, the learners referred to some misunderstandings of context, mainly related to the quality, adequacy, vagueness, and complexity of the prompts offered to solve tasks. They did not rely on the answers if they considered them too generic or inaccurate, and they rendered the prompt responsible of the quality of the result. Finally, learners stated that, since ChatGPT takes information from a wide variety of sources, the responses it returns could be inaccurate, especially when answering complex or controversial questions. Interestingly, approximately 11% of the learners used ChatGPT to a greater or lesser extent to answer this question. Thus, this critical perspective is not unanimous and some learners demonstrated a potential lack of interest in offering their own views on the use of GenAI for language learning by allowing the tool to respond in their place.

Despite the limitations, the learners stressed the benefits of ChatGPT. They acknowledge its availability and flexibility, seeing it as a 24/7 tool that can adapt to different registers and users’ preferences. Likewise, the learners highlighted the convenience of multiple sentence rephrasing, arguing that it helps them to understand different sentence structures. In this same thinking, they also recommend the use of ChatGPT for the clarification of grammar concepts, as, in their view the tool offers answers adapted to the user’s input, making it more personalised. Yet, whether or not this is actually happening is questionable. Thus, there may be a need to consider gaps in learners’ AI literacies and implement training and resources that ensure critical engagement with any such technology. Finally, some learners shared the idea that ChatGPT could be seen as a confidence building tool, as it allowed them to practice language freely and without the fear of making mistakes, promoting self-learning and self-confidence—a value also attributed to corpus-based DDL technologies (e.g. Curry & Riordan, 2021). Overall, these idealised views of ChatGPT conflict with some the learners’ more situated critiques. The tool’s outputs are convincing and compelling (Karinshak et al., 2023). As such, this somewhat confused narrative may be a consequence of an ELIZA effect coupled with a growing critical AI literacy among learners who engage with tools critically, consider the ethics of their use, demonstrate some knowledge of the inner workings of AI tools, and signal its practical applications.

3.3. Focus group

Through the analysis of the focus group, it emerged that the learners encountered challenges when engaging with corpora and Sketch Engine, as many were unfamiliar

with corpus analysis software. The first interaction with the platform was met with confusion, with some unsure of where to start or how to interpret the data provided. The overwhelming nature of the interface, coupled with the vast amount of information presented made it difficult for them to navigate the tool effectively. However, as they continued to explore its features, they began to recognise its value. For some, the experience was eye-opening, particularly because they had previously relied on AI-based tools or more traditional vocabulary-learning methods, as noted in Example 17.

Despite the initial difficulties, many learners identified clear benefits of using corpora for vocabulary learning. In their view, Sketch Engine allowed them to see language patterns in a structured way, which they found useful for supporting vocabulary expansion. Over time, they started to appreciate the potential of corpora in offering insights into language use beyond simple definitions. One of the most significant advantages they highlighted was the ability to see words in context. Rather than relying on dictionary definitions, they could observe how words functioned in real discourse, which they found particularly useful when learning collocations. Several learners noted that English, in particular, requires careful attention to word combinations, and that corpora provide a structured way to examine them, as illustrated in Example 18. Additionally, some found that frequency data helped them to determine the most common and relevant word pairings, reinforcing their understanding of which vocabulary choices were more natural in different communicative settings. Through repeated exposure to contextualised examples, they felt better equipped to retain and apply new vocabulary.

However, the focus group also revealed several challenges in making sense of corpus data. Some learners expressed frustration at the complexity of the tool, struggling to extract meaningful patterns or insights from the information displayed. While some approached the data analytically—examining frequency counts or common collocates—others admitted that they had difficulty interpreting the results—an issue reflected in the corpus task data discussed earlier. This led some to rely on translation when they could not immediately grasp word meanings through the corpus interface alone. The discussion also exposed instances where learners made assumptions about word connotations based on their personal perspectives rather than on empirical evidence from the corpus. This raised questions about the potential for misinterpretation and the importance of developing critical data literacy skills when working with corpora (O’Sullivan, 2007).

One of the most revealing aspects of the discussion was the contrast between different approaches to corpus-based learning. Some learners structured their responses based on frequency counts and empirical patterns, while others leaned on intuition and prior knowledge when drawing conclusions about word meaning and usage. This divergence underscored the role that data selection plays in shaping linguistic understanding. For instance, those who worked with the enTenTen21 UK-domain-specific subcorpus encountered different word associations to those using a larger, more diverse dataset. This highlighted the importance of considering the source and scope of corpus data when drawing linguistic conclusions. It also reinforced the need for structured guidance in corpus analysis, as learners who lacked experience in data interpretation often found themselves overwhelmed or uncertain about how to apply their findings—a long-established issue in the use of

corpus linguistic approaches in language education (Curry & McEnery, 2025; O'Sullivan, 2007; Pérez-Paredes, 2022). The discussion demonstrated that while corpora can be valuable tools for vocabulary learning, their effectiveness depends on learners' abilities to navigate and critically evaluate corpus data.

The second part of the focus group discussion dealt with the learners' opinions on the use of GenAI, particularly ChatGPT, in language learning. The main topics developed around the participants' experiences with ChatGPT, the reliability and consistency of ChatGPT's responses, the importance of effective prompting, the issue of trusting AI-generated content, the uncritical AI usage on the part of some learners, and linguistic considerations closely related to the activity in which the learners were involved. The discussion held on these issues resulted in two main strands of argumentation: on the one hand, some constructive contributions were related to the development of critical thinking and verification skills while working with GenAI. In such cases, the participants emphasised the importance of cross-checking AI-responses using critical thinking to evaluate their accuracy. Likewise, how prompts are formulated was considered fundamental to obtaining solid and compelling responses, as in Example 19. Connected with effective prompts is the linguistic context provided to solve the activities (the passive and active voices), which can influence the response produced by the tool. However, the participants also complained about the potential for over-reliance on AI and the risks associated with the positioning of ChatGPT as a source of undisputed truth. In this way, the learners were demonstrating an explicit awareness of the ELIZA effect. They argue that such implicit trust may be owing to a lack of clear criteria for evaluating GenAI responses. This lack of criteria may encourage a superficial use of AI for copy-and-paste purposes, undermining the potential educational benefits of AI-assisted learning. Example 20 captures some of this sentiment, illustrating a developing critical AI literacy among these learners.

The participants in the focus group highlighted the opportunities and challenges of using GenAI in language learning. While ChatGPT can be a powerful tool, its uncritical usage can lead to misunderstandings and errors. A balanced approach, combining AI with human judgment, linguistic knowledge, and external verification could be essential for effective learning. In this sense, some benefits and limitations of AI in language learning were revealed, as well as some sceptical attitudes on the part of the learners with regard to the content generated by GenAI tools. A further point of note that emerged from the focus groups pertains to differences in the tools' interfaces. The comparably restricted nature of corpus analysis tools, when compared to GenAI chatbots like ChatGPT, allowed learners to identify issues with the querying process. They could clearly identify the problems they encountered with the tool. There was too much choice, the means of interpreting the numbers was not clear, etc. While these same issues are arguably apparent with ChatGPT, the accessibility and conversational nature of the tool made it appear more straightforward. This may seem like an argument in favour of ChatGPT. However, the learners' critiques of Sketch Engine are themselves examples of critical thinking, signalling that the processes of using it offers developmental opportunities less apparent with ChatGPT. Likewise, the learners note that the ease of access to ChatGPT may be creating an over-reliance on tools and placing a focus on learning

as a product, rather than a process (Curry et al., 2025; Flowerdew, 2015). Though there were fewer challenges with interpretation in ChatGPT, this is potentially because the tool presents interpretations to learners—the formulation of which requires little effort on the part of the learners. This raises further questions regarding the value of the process and the product in language education.

4. Discussion and conclusion

Our findings contribute to ongoing discussions about the affordances of technology in language education, supporting the argument for the integration of corpus literacies in language education to support the development of critical AI literacies for those using AI technologies in their language learning. Through our study of learner engagement with corpus linguistic and GenAI tools for language learning, a complex picture emerges. Learners begin with a differing understanding (and as a consequence, expectation) of corpus linguistics and GenAI. While little is known of the former, the learners are familiar with and already using the latter in their studies. This differing starting point leads to general reticence regarding the use of corpora compared to a tentative or, in some cases, strong optimism regarding the potential affordances of GenAI.

Many well-established issues emerged through the workshops, with learners encountering difficulty with the corpus tool interfaces and the means of interpreting corpus findings, *inter alia* (Boulton & Cobb, 2017; Pérez-Paredes, 2022). Many learners struggled with Sketch Engine's interface, highlighting the need for structured guidance in corpus use. Without more extensive training, they found it difficult to extract relevant patterns, demonstrating that access alone is insufficient without instruction in data interpretation. For example, the discussion about the use of corpus data revealed key challenges in learners' interpreting corpus data, particularly in cases where learners relied on personal perceptions rather than empirical evidence. This emerged in the debate over whether *chauvinistic* carries an inherently negative connotation, with some learners basing their conclusions on intuition rather than corpus findings. The variation in word associations across different datasets, such as the UK-domain subcorpus versus the broader corpus, further underscored the importance of understanding data selection and its influence on linguistic analysis, as differing sources provided different evidence on which learners could base interpretations. Additionally, differences in approach became apparent, as some learners relied on frequency counts to determine meaning, while others prioritised context and their own understanding of word associations. This contrast suggests that corpus-based learning does not follow a single, fixed methodology but instead requires flexible strategies that can be refined through practice. However, reflective of the facets of literacy in need of development put forward by Mukherjee (2006), issues with understanding what one can do with a corpus and what one should analyse created challenges for learners. The potential cognitive overload corpus use creates may prevent learners from fully engaging with corpus data.

Conversely, the learners found that using GenAI was easier, owing in part to its conversational nature, and many were confident in the quality and trustworthiness of the information provided by ChatGPT. On an individual level, they seem satisfied

with the personalised pathways that ChatGPT appears to offer, and learner engage with the tool to answer questions and share reflections. Through the focus group discussion, learners demonstrate a critical engagement with the tool, noting a fear of over-reliance on GenAI and the need for a form of augmented intelligence (Fulbright & Walters, 2020) to shape engagement with and use of GenAI in education. These findings echo recent work on teachers' critical AI literacies (e.g. Ma et al., 2024b) where issues of quality of output are among the greater weaknesses of such tools.

While these perspectives may ultimately lead some to argue that ChatGPT could be a more effective resource for facilitating language learning, when compared to corpus tools, a more nuanced perspective is necessary—one that teases apart two key issues: the notion of personalised learning and the question of process or product. An argument supporting the use of DDL is its capacity to personalise learning. In DDL, learners can be autonomous and navigate through corpora to answer questions about language (Charles, 2022). They can pose their own questions or they can be guided by questions put forward by the teacher; these questions could be different from one learner to another, facilitating a learner- or teacher-driven approach to personalisation. In the case of the latter, the teacher is playing the typical role of the educator in contemporary language education whereby they decentre themselves while shaping and guiding classroom practices to facilitate learning (Meunier, 2022). In such approaches, personalised learning is constituted by a modification of curricula to meet the personal needs of individual learners (Prain et al., 2013).

The learners acknowledged the affordances of ChatGPT for offering such personalised learning—an application for which it is lauded elsewhere (e.g. Konyrova, 2024). They noted that they get responses to their queries which they refer to as personalised responses. However, we wonder whether these are truly personalised responses or if they are simply *individualised* responses? While ChatGPT offers some learners alternatives in the form of voice changes, others in terms of synonyms, and others in terms of metalinguistic information, there is no clear rationale for the decision to offer these different responses to different learners. Does the GenAI tool consider factors such as knowledge, performance, demographics, and misconceptions, as Kem (2022) suggests? Likewise, following Melzer (2018), is there a reflection on the cognitive fit, self-regulation, and individual factors? We would argue that, in the case of ChatGPT, there is not. For teachers, the decision to offer one of several such alternatives in a class will typically be motivated by curricular aims, their personal relationships with their learners, and specific learner needs (Prain et al., 2013), while for ChatGPT, the variable of the learner has no real bearing on the tool's decision. Thus, it is likely that these individualised responses are not examples of personalised learning but instead are just a consequence of the tool's non-deterministic nature. Training Large Language Models (LLMs) for bespoke learning may be a means to ensure more personalised learning. However, given that one teacher can support multiple learners in this same way, the economic and ecological impact of such a decision should be considered.

In the question of product and process, Flowerdew (2015) notes that a key value of DDL is that the process of searching for and analysing specific linguistic features

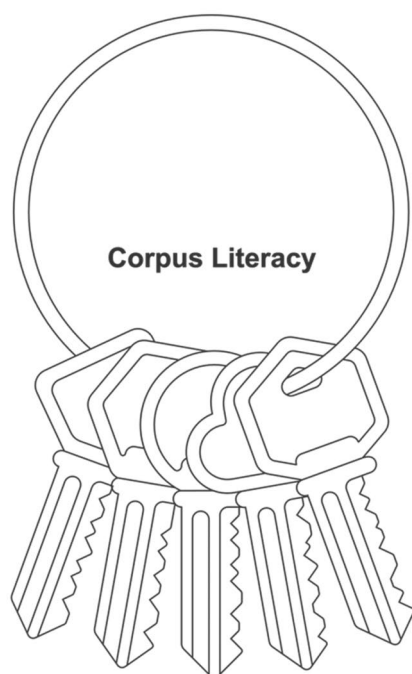
is arguably more important than the product (i.e. what they find through the search and analysis). Extending this notion, we can return to some of the challenges that learners' face in the use of corpora. They noted challenges in using the tools, difficulty in interpreting the data, and challenges with not getting to a right answer. While this may seem an issue, when compared to streamlined user experience of ChatGPT, arguably, these questions alone are evidence of the value of the process. The learners are posing critical questions about the tool and its use and, importantly, they do not pose the same kinds of questions about ChatGPT, despite the now ample evidence that uncritical use of GenAI can have myriad ethical implications (Curry et al., 2024, 2025). It was never likely that learners would master the use of corpus tools in one training session and this is something they report as challenging for the effective use of corpus tools for language learning. We argue that, despite the lack of comparable critique on the part of the learners, they did not master the use of GenAI either. Their confidence in its use should be tempered with similar questions of interpretability and processability and their critical reflections on corpus queries should be matched with critical reflection on the generation of prompts and the data on which the LLMs are trained. In essence, we need not be worried that learners note a need for further training on the use of corpus linguistics—this we have come to expect. However, it should cause some concern if our learners do not see a need for training on the critical use of AI as therein lies the ELIZA effect.

Through an investigation of the contemporaneous use of corpus and GenAI tools by language learners, learners appear to recognise the affordances of each set of tools. Yet their personal experiences with these tools, and potentially their perceived ease use, may be having an adverse effect on the development of literacies. In Pérez-Paredes et al. (2025), we argue for the need to develop critical AI literacy (CAIL) among learners in applied linguistics, based on the four key dimensions investigated: a technical understanding of AI, critical thinking, ethical awareness, and the practical application of AI. The present study further evidences the urgent need for learners' engagement with AI tools to be paired with a good understanding of AI's mechanics, its ethical implications, and its alignment to fundamental issues in applied linguistics.

While our study does not aim for generalisability, this study supports the need for discipline-specific AI literacy education that ensures responsible and informed AI usage. Corpus-literacy, understood as a specialised form of data literacy that involves understanding, managing, and analysing linguistic data using corpus-based methodologies, has come to play a central role in applied linguistics and language education (Figure 14). We argue that the competencies developed through the use of corpus linguistics can serve as a foundation for engaging critically with AI tools. In Pérez-Paredes et al. (2025), we have attempted to render this alignment more concrete, by mapping practices in applied linguistics education more generally against AI with a view to signalling the specific knowledge base on which our learners can draw in their studies.

We advocate an agenda that promotes research into the contribution of corpus literacy to CAIL that includes, among others, the dimensions in Figure 2. Corpus literacy encompasses technical proficiency in using tools like Sketch Engine for linguistic analysis, querying datasets, and identifying language patterns. It also involves critical data awareness that could be transferred to the evaluation of biases in LLMs, ensuring ethical engagement with language resources. Strongly linked to AI literacy,

Enhancing AI Literacy Through Corpus Literacy and Critical Analysis



Technical Proficiency

Mastery of tools for linguistic analysis and pattern identification.

Critical Data Awareness

Recognizing biases and ensuring ethical data use.

AI Integration

Enhancing AI literacy through corpus data interpretation.

Situated Learning

Applying linguistic knowledge in real-world research contexts.

Cognitive Development

Fostering critical thinking and analytical skills.

Figure 14. Key dimensions of corpus literacy in Critical AI literacy (CAIL).

corpus analysis can foster transparency and enhance the critical evaluation of AI-generated texts. As a discipline-specific skill, it encourages situated learning in applied linguistics, supporting cognitive development and analytical thinking.

It is time for a radical turn in language education that favours the role of language educators as knowledge promoters. For GenAI tools, the ease of use and conversational demeanour, coupled with their comprehensive product-driven responses renders them attractive. Yet, it is this very same focus on product that limits learners' capacity to engage in certain learning process that bear so much fruit in education within and beyond language learning. Likewise, it is their ease of use that could incidentally foster their uncritical usage. While much research in corpus linguistics and AI sees them in opposition, it may be that in the case of AI and corpus literacies, an integrated approach could help learners see the affordances of their respective tools in synchrony while they transfer their critiques of one set of tools to another. It is urgent to pursue a research agenda that, while acknowledging the transformative potential of AI tools for language learners, advances our theoretical and practical understanding of LLMs. Such a goal should be guided by a will to avoid rendering future generations of language learners as uncritical and dependent users of AI. Instead, we must ensure that any use of LLMs will be of benefit to all learners and merit any potential costs and adverse impact.

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Notes on contributors

Prof. **Pascual Pérez-Paredes** is a Professor of Applied Linguistics and Linguistics, Universidad de Murcia, and former Lecturer in Research in Second Language Education at the University of Cambridge. His main research interests are the use of corpus linguistics methods in applied linguistics, corpora and digital resources in language education and corpus-assisted discourse analysis. He is Co-Editor in Chief of CUP's ReCALL journal (4.6 IF 2023; ranked 5th in Linguistics) and, among others, is a member of the Applied Linguistics Press (ALP) Advisory Board.

Dr **Niall Curry** is Reader in Languages and Linguistics at Manchester Metropolitan University. His work addresses issues in applied linguistics, with specific interest in corpus linguistics, contrastive linguistics, discourse analysis, and language pedagogy. He is Series Co-Editor of the *Routledge Applied Corpus Linguistics* and *Routledge Corpus Linguistics Guides* book series, Section Editor of *Elsevier Encyclopedia of Language and Linguistics*, a Fellow of *The Royal Society of Arts*, and an *Associate Fellow of the Global China Academy*. For more information about Niall, his publications, and his projects, visit: <https://linktr.ee/niallcurry>

Dr **Pilar Aguado Jiménez** is a Tenured Lecturer in the Dept. of English Studies at University of Murcia, Spain. She is interested in the design of materials for EFL teaching; research through linguistic corpora on orality, ideological representation in specialised languages, use of mobile devices for learning English, and professional languages, in particular Business English; teacher training and the use of open teaching resources and apps. Her works have been published in *RESLA*, *META*, *CALL*, *System*, *The ESPecialist*, *Accross Languages and Cultures*, *Journal of English Studies*, and *John Benjamins*, among others.

ORCID

Pascual Pérez-Paredes  <http://orcid.org/0000-0002-2796-338X>

Niall Curry  <http://orcid.org/0000-0002-4471-6794>

Pilar Aguado Jiménez  <http://orcid.org/0000-0001-7739-7411>

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