



Managing Business Communication Education in the Era of Artificial Intelligence: Linguistic Challenges and Opportunities

¹Sana Hussan -Email- sanahusana1992@gmail.com

¹Doctoral Research Fellow, DBA Business Administration, The University of the Potomac, Virginia, United States (USA).

Article Details:

Received on 20 May, 2026

Accepted on 17 June, 2026

Published on 29 June, 2026

Corresponding Authors*:

Abstract

Business communication has changed, and what is considered competent has evolved with the rise of Artificial Intelligence (AI), particularly generative AI. The advent of AI, and specifically generative AI, has reshaped what is considered competent in business communication and how it can be taught, practised, and assessed. This chapter critically analyses and synthesises relevant research in applied linguistics, business and professional communication, educational technology, and AI in education, examining their influence on this transformation. It posits that although AI could enrich the linguistic and pedagogical landscape with more opportunities for personalised feedback, multilingual rehearsals, simulations, and workplace-aligned practice, the pedagogical benefits of employing such tools must remain dependent on maintaining human authorship, pragmatic sense, intercultural sensitivity, and critical checking. Existing research is encouraging but fragmented, with most studies focusing on short-term language output in English. Remaining areas of research, including oral interaction, workplace transfer, multilingual business environments, disability, and long-term impacts on cognition, are largely under-researched. A holistic approach is suggested that combines the development of the ability to communicate effectively, the ability to act as a competent user of AI, genre awareness, ethical reasoning, and human-AI collaboration. The chapter ends with guidelines on what should be included in the curricula, strategies for assessing information, classroom applications, and a policy for responsible human-centred adoption.

Keywords: Artificial Intelligence in Education; Business Communication; Applied Linguistics; Generative AI; AI Literacy; Professional Communication; Language Learning; Higher Education



Introduction

AI may have become more than just an advanced technology for teaching and learning; it has become a part of daily life for universities. Previous applications tended to be prediction, automatic marking, recommendation or intelligent tutoring predispositions of bounded systems. But today's generative AI systems can create, manipulate, convert and converse in natural language about text, speech, images and more. The literature on higher education research then exhibits both an acceleration and a change in the direction toward which higher education research is moving: from 'Higher education is facing analytics' to 'Higher education is facing the student: assistants and generative tools'. This change needs to be viewed in the context of the longer, complex and polarised story of AI in education, not as a completely new change (Williamson & Eynon, 2020). It has pedagogical implications, as language is not only the medium by which one engages with the technology; it is also the language that business communication courses have to teach students to design, interpret, and evaluate.

Business communication learning has also changed. Its traditional focus on clear letters, reports, meetings, and presentations has grown into a sense of collaboration using networks, multimodal communication, remote teamwork, social media, data storytelling, and working across languages and cultures. Employer studies still reveal that written, oral, interpersonal, and listening skills are all part of the skills employers want their graduates to possess. Still, they also demonstrate that "communication skill" is not a monolithic, transferable skill. It consists of audience analysis (Coffelt et al., 2022), relational judgment (Coffelt et al., 2022), genre knowledge (Coffelt et al., 2022; Conrad & Newberry, 2012), credibility (Coffelt et al., 2022; Conrad & Newberry, 2012), collaboration (Cormier et al., 2022; Conrad & Newberry, 2012) and facility across media (Cormier et al., 2022; Conrad & Newberry, 2012). Additionally, in international business, successful communication does not necessarily rely on replicating an idealised norm of the native speaker but involves meaning negotiation among multilingual parties (Kankaanranta & Louhiala-Salminen, 2013; Nickerson, 2005).

This judgment of language is crucial and even more pertinent today with the influence of Artificial Intelligence (AI). This can result in an email with good grammar but with wrong understandings or misinterpretations about the concept of power distance, by being too direct, finding facts that do not exist, or showing a structured Anglophone voice. The weakness in pragmatics can thus be masked by fluency. Applied linguistics distinguishes between formal correctness and the contextual feasibility, appropriateness, and effectiveness of language choice (Bachman, 1990; Canale & Swain, 1980). It is crucial in AI-assisted learning: students need not only to produce acceptable prose, but also to consider which persons, which identity, and which presumption the prose expresses.

There is still a need for the research base to address this adequately. The field of generative AI in Language Education scholarship has evolved significantly; however, writing, English as a foreign/second language, students' perceptions, and relatively brief interventions are predominant topics in the field (Li et al., 2024). Materials for business communication are limited to negotiating, meeting, crisis communication, intercultural pragmatics, and transfer to business life. At the same time, discussions of plagiarism usually do not take into account the means by which language, linguistic rough-and-tumble, bias, and decontextualization occur.



This chapter aims to fill this void by incorporating evidence from the use of AI in education, language learning and business and professional communication. These aims are to: (a) understand the impact of AI on competencies and management of business communication education; (b) assess the linguistic, cognitive, ethical and intercultural risks; (c) determine defensible classroom applications; and (d) suggest an AI-ready curriculum and research agenda. The discussion first covers changes in the field and related technologies, before moving on to the theoretical background, challenges and opportunities, applications, roles of teachers, curriculum, implementation plans, future directions, and the discussion and conclusion.

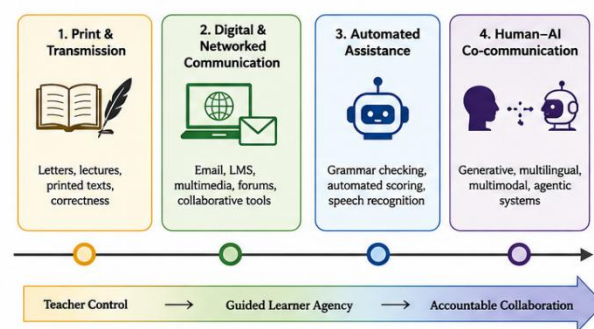


Figure 1: Evolution of Business Communication Education in the AI Era

Business Communication Education in the Digital Age

Business communication education is the systematic development of language, rhetoric, interpersonal, intercultural, and media competencies that enable organisations to fulfil goals responsibly. Its range covers routine genres like emails and reports, persuasive genres like proposals, tricky conversational genres like difficult conversations, and genres involving negotiations like meetings, interviews, presentations, visualisation, and imaginary documentation collaborations. As Bhatia (1993) and Swales (1990) have pointed out, professional texts are routinised social actions and thus research into genres or prototypes is helpful here. The students need to know the reasons for the existence of a genre, the conventional organisation of evidence and politeness for the genre, what variations are acceptable in a situation and what the consequences are of the communicative choice.

The field thus has goals beyond simply narrow employability goals. Communication creates connections within the organisation, shares knowledge, visualises decisions, allows or denies involvement. Employer research validates the significant role of multimodal and interpersonal competence (Coffelt et al., 2022; Robles, 2012), and analyses of the expected attributes of employability make sense of the various so-called 'soft skills' as interrelated, rather than independent graduate traits (Rios et al., 2020; Succi & Canovi, 2020). The suggestion is that such a curriculum, based only on decontextualised grammar exercises or



isolated public speeches, is not enough. It needs to bridge the gap between language form, disciplinary knowledge, and ethical responsibility.

Digital transformation first transformed the processes and speed of this first phase of work. This included the compression of time for following up on email, the visibility of the revision process on collaborative platforms, the salience of turn-taking, camera, and brief facilitated communication in video conferencing, and the permeability of formal and informal registers on mobile communication. It also provided more opportunities for authentic tasks, peer feedback, usage of corpus, participation beyond the classroom, etc. However, technology was no substitute for teaching. In its role as a language teaching and learning tool, then, what is presented is the teacher's determination of how to tap into the resource to facilitate interaction, attention to language and learner agency, as this serves as a determining principle for what constitutes good use of it in the classroom.

Generative AI is a step further it involves composing. Normally, traditional teaching was from the teacher expounding to students, making and teacher marking. Examples such as simulated audiences, automated feedback, translation, rehearsal, and iterative dialogue can be added on demand throughout instruction, powered by AI. However, the “lessons” should not be considered as slow human learning and quick machine learning. While automated systems offer scale, immediate delivery, repetition, and reduce the need for human involvement, they may lack relational sensitivity, contextual knowledge and prioritising meaning where human feedback can only assist. Studies that have directly studied the effectiveness of AI and human writing feedback have demonstrated that while AI-generated feedback can be beneficial and appreciated, this feedback often depends on the prompt and criteria used and is not a replacement for human feedback from experts (Escalante et al., 2023; Steiss et al., 2024).

The emerging competency in the centre is then calibrated co-agency knowing when to go it alone, and when to call in the computational help, how and when to provide context and who and how to take responsibility for what. This involves the ability to read the cues quickly, check the source, make disclosure, produce correction history, demonstrate an understanding of privacy and also be able to reject a believable but inappropriate option. It also features a multilingual accommodation. An adaptation to the use of English in international communication, with the native speaker as a norm among participants, is found in Business English as a lingua franca research, which shows that collaborative meaning-making is essential instead of conformity to the norm (Kankaanranta & Louhiala-Salminen, 2013). Adopting that accommodation will depend on realising that robotic fluency does not equal communicative success, something AI can support.

Table 1: Traditional versus AI-Enhanced Business Communication Education

Dimension	Predominantly traditional approach	Purposeful AI-enhanced approach
Learning sequence	Teacher model, individual production, delayed evaluation	Student production, AI-supported interrogation and rehearsal, peer/teacher validation, documented revision



Feedback	Periodic and constrained by class size	Immediate and repeatable, but filtered through rubrics and human judgment
Language model	Correctness and stable genre conventions	Accuracy plus audience, register, pragmatics, identity, and variation across contexts
Practice	Limited number of cases and interlocutors	Multiple scenarios, roles, difficulty levels, languages, and counterfactual cases
Assessment evidence	Polished final product	Product plus process evidence, oral defense, source checks, prompts, and reflection
Teacher role	Primary source and evaluator	Designer, discourse expert, coach, ethicist, and quality assurer
Primary risk	Inauthentic transmission and limited feedback	Cognitive outsourcing, generic language, bias, privacy loss, and uncertain authorship

Artificial Intelligence and Language Learning

In the field of education, Artificial Intelligence (AI) is any computing system that does tasks related to perception, prediction, adaptation, understanding or processing natural language, or decision making in the teaching and learning process. Intelligent tutoring systems (ITSs), automated writing evaluation, learning analytics, speech recognition, machine translation, chatbots and generative models are included in the category (Chen et al., 2020). Previous meta-analyses have shown appreciable learning gains, although results varied according to the quality of their design, topic, control conditions, and how well the tutoring methods aligned with the learning goals (Kulik & Fletcher, 2016; Ma et al., 2014). Contemporary generative systems are not as tightly bound by a domain model as most ITSs, are general-purpose, and are conversational.

Natural language processing (NLP) is the ability of the computer to process and generate language. Large language models (LLMs) are models trained on large amounts of text data, and they can be used to generate sequences based on given prompts. Generative AI takes these features even further, considering optimisations for different modalities, and AI writing assistants can incorporate NLP principles in aspects of error detection, paraphrase, prediction, style and feedback. Speech-recognition systems require speech to be transcribed into text and can be used to assess pronunciation, fluency or delivery. The categories can overlap for instance, a business student could be dictating a proposal, asking for grammatical and rhetorical ideas, translation for a client as well as rehearsal with automated speech feedback.

When it comes to writing, AI can support brainstorming, outlining, modelling a genre, correcting language, summarising, adapting to an audience, and formative feedback. Still, these come with potential pitfalls in terms of accuracy, voice, and authorship (Barrot, 2023). A study using ChatGPT as a tool to enhance the learning of basile writers, conducted using mixed methodology with undergraduate ESL learners, yielded results of improvement when ChatGPT was designed as a formative feedback tool; however, the research showed



there was a high dependency on the machine, and the duration of the study was small and limited to specific genres (Mahapatra, 2024). Other collaborative evidence also reveals that ChatGPT feedback is related to proficiency, technocognitive competence and metacognitive regulation (Yan & Zhang, 2024). It's significant beyond just an overall assertion of the ability to "improve writing" with AI: students not only learn from feedback, but they learn when they listen to someone else and test that comprehension by articulating or reacting to it, and act when they receive instruction and direct their response or reaction to that instruction.

Previous AWE (automated writing evaluation) studies come to a similar conclusion. While reviews of Grammarly, Pigai and Criterion draw connections between automated feedback and increased accuracy in addition to positive attitudes by the learners, they also note the limitations of sample size and inconsistent uptake of feedback, as well as the lack of focus on rhetorical or longitudinal outcomes (Ding & Zou, 2024; Dizon & Gayed, 2024). In naturalistic work, students' use of Grammarly feedback was not consistent (Koltovskaia, 2020), and teacher feedback and Grammarly feedback were complementary, with the teacher focusing on content and communicative purpose and Grammarly focusing on surface language (Thi & Nikolov, 2022). So it's not automatic substitution, but it's what we call a pedagogical model: the layered feedback model.

There is an opportunity for low-stakes repetition, pacing, transcripts, and practising speaking and listening when human partners are not available, using speech recognition chatbots. A systematic review revealed growing adoption of these kinds of chatbots, overall positive student feedback, and varying designs, with minimal evidence of sustained learning or spontaneous human interactions (Jeon et al., 2024). For business communication, they may come in handy for practice interviews, elevator pitches, starting a meeting, dealing with questions and practising pronunciation. They are weak in interactional authenticity, where understanding of the hesitations, the management of 'face', the repairing of misunderstandings, and reacting to emergent interests count more than the production of a fluent turn in the negotiation of a successful interaction.

AI can also be used in presentations for outline creation, slide-language editing, performing timing analysis, reviewing presentation text and generating questions. There are ways to translate content from other languages and to use multilingual LLMs for source content and collaboration with other partners. But translation is an interpretative work that involves terminology, an institutional voice, and cultural positioning. For high-stakes situations, student comparisons of their work products, keeping of glossaries, and explanation of decisions made in the logic and sequence of their choices should be expected.

The strongest overall conclusion is contingent. Recent analyses of the literature identify analogous benefits of customisation, feedback, practice, presence of choice and creation of materials, as well as tendencies towards hallucination, bias, privacy concerns, reliance, and academic-integrity issues (Kohnke et al., 2023; Li et al., 2024; Meniado, 2023; Tlili et al., 2023). While students' perceptions towards the use of AI in writing can be positive, they do raise concerns about reliability and ethical use (Chan & Hu, 2023). Many of the texts focus on perceptions, not on actual performance in the workplace, and English writing receives



an unduly elevated emphasis. Such claims of transformation can consequently be considered design hypotheses that need to be assessed in the specific design context.

Table 2: Major AI Tools Used in Business Communication Education

Tool/category	Illustrative uses	Pedagogical strength	Key limitation
ChatGPT	Draft critique, role-play, questions, explanations	Flexible dialogue and rapid variation	Hallucination, genericity, uncertain provenance
Microsoft Copilot	Workplace-document assistance, summaries, presentation support	Connection with common productivity workflows	Institutional licensing, data governance, over-automation
Google Gemini	Multimodal ideation, analysis, rehearsal	Cross-modal input and conversational support	Output variability and verification burden
Grammarly	Grammar, clarity, tone, revision feedback	Immediate sentence-level support	May privilege standardized forms and surface correction
DeepL	Translation and multilingual rewriting	Rapid comparison across languages	Pragmatic and terminological choices still require expertise
AI presentation tools	Outlines, layouts, visual suggestions, Q&A	Faster prototyping and alternative designs	Fabricated visuals/data and template-driven argument
Speech evaluation tools	Transcription, pacing, pronunciation, filler analysis	Private, repeatable oral rehearsal	Accent bias and limited judgment of relationship/meaning
Virtual roleplay/chatbots	Meetings, interviews, negotiation, service encounters	Scalable scenarios and lowstakes repetition	Simplified personas and weak social authenticity

Theoretical Perspectives

No single theory can fully account for AI-assisted business communication learning. A theory of language-in-use, one of interaction and learning, one of adoption, and one of the distribution of agency between system, learners, and teachers is needed for the integrated account.



Applied language uses enrich that with the first level, taking into consideration the way that language resources function in specific social, professional and institutional settings. Business texts are multigeneric, serving community functions and reflecting community roles and power relations (Bhatia, 1993; Swales, 1990), and business discourse studies view meetings, negotiations and correspondence as situated acts which are affected by the roles and cultures of the participants (Bargiela-Chiappini et al., 2013). This approach considers AI output not solely by grammaticality. Rhetorical action, stance, evidence, voice, accessibility and consequences are evaluated.

The second layer is called communicative language teaching (CLT). Based on Hymes' (1972) description of communicative competence, which disputed the view of language competence as solely grammatical competence, Canale and Swain (1980) wrote of three dimensions of communicative competence: grammatical competence, sociolinguistic competence, and strategic competence. Later models extended this focus to include organisational and pragmatic knowledge (Bachman, 1990). Interaction with a compliant simulator can create many opportunities for meaningful production and strategic repair. Still, it may not share all the social risk, reciprocity, or unpredictability of communication with a human. Thus, CLT is in favour of simulation training using AI tools, but it is sure to have the close involvement of human thinking and training in validation and transfer.

The Technology Acceptance Model (TAM) is based on the perceived usefulness and perceived ease of use (Davis, 1989). It is relevant as pupils and teachers potentially use tools to improve the time and/or mitigate anxiety. That is not the quality of education, however. The frictionless producer can be a very productive machine but they can't be one just because it doesn't produce any friction. There is thus a need to measure, in addition to 'transition', learning, ethical acceptability, equity and communicative performance, and supplement TAM accordingly.

These supplements are important in light of sociocultural and situated learning theories. Mediated activity, scaffolded participation, and progressing towards fuller participation within communities of practice allow learning to develop (Lave & Wenger, 1991; Vygotsky, 1978). While AI can serve as a mediational tool, adjustments or fading of this mediational presence should be made as competence levels grow. Mediation is replacement in cases where the system is continually conducting audience analysis, argument construction and wording for the learner.

System-level view with learning frameworks based on AI support. According to Ouyang and Jiao (2021), there are three types of use: AI-directed, AI-supported, and AI-enabled pedagogy. The step-by-step movement is support for curriculum planning; either constraining correction could be beneficial for initial accuracy-building exercises, discussion of options could be used during guided practice, and letting learners opt for the tool they want and need could be most beneficial in higher-level professional projects. The same situation arose in the analysis of the synthesis of recent studies on higher education, which, instead of the autonomous work of AI tutors, call for a triadic relationship between students, teachers, and AI. Consequently, the theories complement each other: applied linguistics for determining communicative quality and CLT's focus on meaningful dialogues and interactions; the mediation of sociocultural theory and the three stages of acceptance in TAM; and the degrees of control in the applied EE model. What they share is



the notion that it is not just the tool, but the designed activity system that is the unit of analysis.

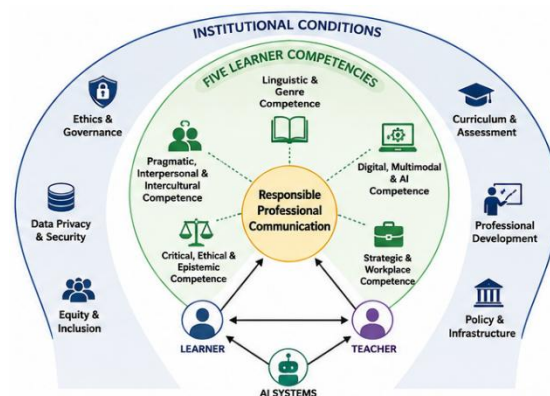


Figure 2: Conceptual Framework of AI-Enhanced Business Communication Education

Linguistic Challenges in AI-Supported Business Communication Education:

Authorship, cognitive outsourcing, and originality

The immediate challenge isn't simply that AI isn't always going to write poor prose; it's that it can often write decent prose in the absence of a learner's reasoning, which the prose will serve as evidence of. Idea generation, selection of evidence, organisation, qualification and revision are mental and more than linguistic actions. When outsourced wholesale, these can be integrated nicely and potentially mask a lack of knowledge. It is still very far to say that empirical evidence is present to conclude 'inevitable' cognitive decline. One study reported that selected undergraduate cognitive skills were positively impacted in structured LLM interaction, and reviews or structured risk analysis (SRA) of LLM similarly reported drawbacks of overreliance and loss of metacognitive effort as serious issues (Essel et al., 2024; Farrokhnia et al., 2024; Qian, 2025). The correct answer would be that it depends on the task design; an AI can help prolong thinking when a student provides critiques on alternatives, and shorten thinking when the student takes the first output.

Careful definition is also needed as to what constitutes originality. When communicating in business, genres depend on conventions; don't rule out all formulas as original. It involves intentional decisions regarding purpose, evidence, voice, and situation, and holding oneself accountable for those decisions. Generative systems are usually statistical formulations that tend to give a student's voice a sameness and result in a changeable corporate jargon.

This research into human-machine writing thus focuses on negotiation and revision instead of viewing the AI as a transcription "service" (Bedington et al., 2024; Cummings et al., 2024).



Academic integrity and unreliable detection

Authorship may be disguised in undisclosed generation, and this, in turn, may make it difficult to make an accurate assessment of learning. This happens when people try to paraphrase and recite information; this is defined as plagiarism. However, in the case of generative text, sentences may remain in the same word order as those from the care provider. Integrity policies should differentiate between acceptable editing and co-creative work which is disclosed, between unacceptable substitution, and fabrication of sources. Both blanket prohibition and unrestricted use of these technologies pose a challenge for teaching and learning because they may hinder some of the traditional take-home assignments that have been used (Cotton et al., 2024; Rudolph et al., 2023).

There is no governance solution via AI text detection. Detectors can be hampered by paraphrasing, are system-dependent, and can lead to false accusations. Experimental testing revealed that performance degraded significantly with adversarial changes and recommended not relying solely on detector scores to identify misconduct (Perkins et al., 2024). For a multilingual writer, false positives can also be a matter of equity as their formulaic or less-perplex language can be mistaken. It is easier to take a stance on evidence of learning or speak to the student about it, make draft histories or redesign assessment, and more defensible than automated policing.

Bias, pragmatics, and intercultural communication

Historically and socially imbalanced corpus on which the language models are taught. They can replicate stereotyped alliances and normalise dominant varieties, and they can be inconsistent between languages and social groups (Bender et al., 2021; Blodgett et al., 2020; Mehrabi et al., 2021). Perceptions of bias in the business classroom can relate to the type of jobs being advertised or promoted; descriptions of how to perform a job; descriptions of ideal customer types; leadership descriptions; or assumptions about names, accents, gender, and national cultures. A request to "make this more professional" can be a shrewd request for a bit closer approximation of a "white, narrow, middle-class" standard and for removing the unwanted accents.

Appropriateness is particularly subject to variation, and therefore pragmatic competence is vulnerable as well since it cannot be computed from the wording. Sometimes a polite noncommittal response will be organizationally a dodge while a succinct e-mail will be a fine artefact in one relationship and not in another. LLMs do not have actual membership in the communities they model, and hence can only be said to model the norms that exist in these communities. In addition, essentialising national cultures is warned against in conducting international business research because multilingual personnel then strategically adapt, accommodate and negotiate norms on the spot (Louhiala-Salminen & Kankaanranta, 2012). AI-generated 'cultural advice' should thus not be regarded as a rule concerning a population but rather a hypothesis to explore on a case-by-case basis.

Misinformation, privacy, and accountability

Generative fluency also creates an epistemic hazard. Models may supply fabricated citations, summaries that are not made clearly and comprehensibly, or claims that are not supported in a bold tone. Hallucination has been extensively reported in the broad field of Natural Language Generation (Ji et al., 2023). In business communication, it is possible to



cause substantial damage by inventing market data, policies, quotations, and legal requirements. Learners should be taught to make lateral connections: linking statements to accessible evidence, distinguishing between colouring in language and stating facts, and indicating when they are not sure.

It is also essential that people's privacy is respected. Real-world business cases typically have employee, customer, financial and/or strategic data. Submitting such information to another service could violate consent, institutional policies, contractual confidentiality, or data protection. In education, an ethical approach to AI argues that systems should not just be issued with disclaimers, but that ethical concerns should be built into learning systems, stating that fairness, autonomy, transparency, and learning data are fundamental issues that need to be addressed (Holmes et al., 2022). Teachers should therefore ensure they are using de-identified or synthetic cases, explain data retention and access and offer alternative approaches that do not involve AI.

Lastly, responsibility can NOT be passed on to the model. There is no professional responsibility for AI for biased hiring communication, false reporting, or unsuccessful negotiation. There is accountability of the human communicator and institution. The surface linguistic challenge is to ensure surface fluency doesn't replace situated judgment, then.

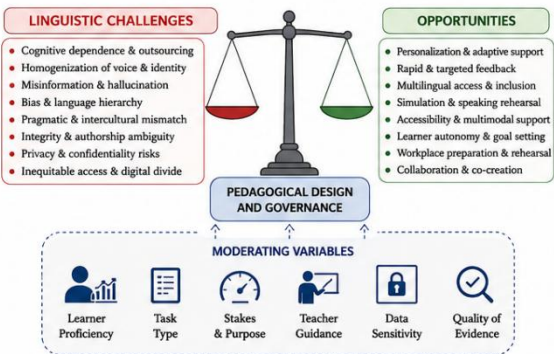


Figure 3: Linguistic Challenges and Opportunities in AI-Supported Learning

Table 3: Linguistic Challenges and Their Educational Implications

Challenge	Potential educational consequence	Pedagogical response
Cognitive outsourcing	Weak ownership of reasoning despite polished language	Require independent first attempts, decision logs, oral defense, and comparison of alternatives
Generic or homogenized voice	Reduced rhetorical distinctiveness and identity	Assess audience-specific choices; preserve selected authorial language; discuss style norms critically



Hallucination and misinformation	False evidence presented fluently	Require source tracing, claim verification, uncertainty labels, and primary-source comparison
Bias and language hierarchy	Stereotypes and privileging of dominant English varieties	Conduct bias audits; compare outputs across prompts/languages; include multilingual and World Englishes perspectives
Pragmatic mismatch	Inappropriate politeness, stance, or relational meaning	Use role-rich cases, human interlocutors, discourse analysis, and post-simulation debriefing
Integrity ambiguity	Misrepresentation of authorship and invalid assessment	Publish task-specific rules; require disclosure and process evidence; redesign rather than rely on detection
Privacy and confidentiality	Exposure of personal or organizational data	Use synthetic/de-identified data, approved systems, minimum-data principles, and an opt-out route

Opportunities Created by AI for Business Communication Education:

Personalisation and adaptive support

Changing examples, explanations, pacing, and/or language, and increasing or decreasing the level of difficulty on tasks is something an instructor struggles to pull off at the speed AI can. A student may ask for an opportunity to have 3 different responses to a complaint on the various relationships, direct and indirect openings, as well as a chance to practise with more difficult stakeholders. Previous ITS studies show how adaptive support can be used when systems provide a clear domain model and feedback strategies (Kulik & Fletcher, 2016). General-purpose LLMs (GPLs) can provide a higher level of pedagogical flexibility, at the cost of losing out on pedagogical control. Without visible learning outcomes and quality criteria, personalisation is therefore of little value.

Immediate feedback is especially valuable in large classes and/or multilingual settings. AI can identify and indicate grammatical, cohesive, concise, and tone issues, and also generate examples. Automated writing evaluation tools and generative feedback are related to revision and learner satisfaction (Ding & Zou, 2024; Escalante et al., 2023). But there can be too much feedback, which can hurt learners and deter learners from giving feedback. Teachers should take the time to prioritise feedback, for example and then organisation. Organisation and finally editing at the sentence level and ask for acceptance, refusal or suggestions for changes and provide reasons.

Multilingual communication and inclusion

Translation/paraphrase, text simplification, captioning and speech-to-text are ways of broadening participation for multilingual learners and some students with disabilities. The students may pre-draft and/or compare translations, or explanations of the use of



unfamiliar professional language may be given. When such tools are used, they can help to decrease worry and allow for more consideration of higher-order decisions. They can also assist with inclusive format preparation of the transcriptions, summaries, alternative descriptions and rehearsal without publicising.

However, access does not equal inclusion. The paid tiers, device requirements, accent recognition, language coverage and inaccessible interfaces may replicate the inequalities. AI could also “correct” for correct variations in language. Therefore, inclusion, along with cultural and linguistic diversity, data protection and human agency, are key design requirements as outlined in the guidance provided by UNESCO (2023). A course of responsibility offers the same (or similar) alternatives to AI as well as evaluates communicative effectiveness, not adherence to one standard voice.

Speaking, simulation, and workplace preparation

Repeated speaking practice for interviews, negotiations, meetings, customer service and presentations can be done via conversational AI. Learners can optionally stop, resume, get the transcript, and switch roles. Research on speech-recognition chatbots indicates that they may be beneficial for practising volume, confidence, and perceived usefulness; however, evidence on long-term transfer is scarce. The best design is to use AI for rehearsal and leave human performance out. For example, an AI-generated mock interview can be useful for producing and practising examples. At the same time, a peer or the interviewer can judge credibility, rapport, adaptability, and the student's nonverbal response.

Variations are also cost-effective when it comes to simulations. Such a team will be able to react positively to a supportive manager, a sceptical investor, and a dissatisfied client. They can evaluate differences in messages across versions of HCA and LCA without assuming the personas they generated are ethnographic realities. Debriefing transforms simulation into learning through questioning the extent to which cues were realistic and/or stereotyped, or whether events would have been dealt with differently if they had the actual knowledge of these stakeholders.

Collaboration, autonomy, and professional identity

AI can be used as an interim brainstorming partner, assist with peer reviews, and generate scenarios. AI-assisted peer feedback can involve comparing AI feedback to peer feedback, making judgements about feedback disagreement, and building feedback literacy. Recent studies show that incorporating AI into peer reviews, as opposed to using an AI system alone to evaluate, can have a beneficial impact (Guo et al. 2024). Likewise, personalised writing tools have been developed through the use of student-created chatbots, moving away from the passive learning/receptive mode to enable the configuration of the tool (Guo & Li, 2024).

Practices may help foster learners' autonomy when learners establish goals, monitor feedback and evaluate outcomes. Although they do not actually defy independence, they do detract from autonomy if the key term here is “independent learning,” in the sense of learning to be independent of a generator. Intelligent Writing Assistance therefore can be called a partnership that needs critical engagement, as Godwin-Jones (2022) terms it. When preparing students for professional use, it's not about whether they can use a



“trendy” tool; it's about preparing communicators who can choose a tool, defend the selection, and show what to do when they need it.

Table 4: Educational Opportunities Created by AI

Opportunity	Business communication example	Condition for educational value
Personalized practice	Adjust a sales pitch for expertise, role, and resistance level	Learning criteria are explicit and challenge increases over time
Automated feedback	Diagnose concision and tone in an email	Student explains uptake; teacher addresses meaning and context
Multilingual support	Compare translated client messages and terminology	Outputs are checked by sources/proficient users; variation is respected
Speaking rehearsal	Simulate interview questions or presentation Q&A	Followed by human interaction and reflection on transfer
Accessibility	Produce transcripts, simplified versions, or alternative formats	Interface and output are tested; non-AI options remain available
Simulation	Run negotiation or crisis-response scenarios	Personas are treated as provisional; debrief addresses realism and bias
Collaboration	Compare AI, peer, and self-feedback	Students resolve disagreements using evidence and shared rubrics
Autonomy	Build a personal revision protocol or chatbot	Learner sets goals, monitors reliance, and retains independent capability

AI Applications in Business Communication Classrooms

Pedagogical planning for specific products should start with functions, and not brand loyalty, as specific products change so frequently. Conversational generators and analysts: ChatGPT, Microsoft Copilot and Google Gemini can serve as tools to generate and analyse conversations. Automated writing and editing environment: Grammarly is a tool that can be used for writing and editing. It is not a question of which is “the best” tool, data practice, or learning sequence in general, but rather which tool, data practice, and sequence of learning is right for the communicative objective.

Students could use an LLM to create a list of different structures they might use when writing a report from a pack of evidence provided by an instructor and then show why elements have been omitted, how some elements are not supported, and which elements



have been used differently. They should deliver the analysis before engaging AI for adversarial analysis. A common method for teaching writing via email as a process is to write a first draft, ask for two revised versions (one with concession, and another with elaboration), mark them with some comments on changes made to the level of directness and attitude, and write one final version with a disclosure note. Evidence from Grammarly's auto-generated feedback suggests that there are benefits in retaining both types of feedback, namely teacher feedback and automated feedback (Thi & Nikolov, 2022).

AI can provide presentation outlines, translate lengthy prose into slide format, offer potential questions from the audience, and conduct a verbosity check of a transcript for speaking in presentations. When using data slides or other visuals, students should cross-check data and claims and be mindful about how they can use the visuals to advance the argument; students should not let slides that are made "suggest the argument. Good assessment is combined with live acting & unscripted questions. In addition to pacing and pronunciation tools for speech, there will need to be feedback from other students and the teacher to ensure that the speech is persuasive, credible, and relevant to the audience.

Improve negotiations and meetings with virtual role play. The AI can also be given the personalities of a supplier, employee, or a client, who will have interests and constraints. Students then hand in a map of their negotiations, which makes a clear distinction between position, interest, concession, question and relational behaviours. It is then run again with a human peer so it can be compared to the computational predictability and human emergence. Likewise, if you're a meeting chair, an AI-powered chatbot can assist you to rehearse for meeting opening, meeting transitions, managing interruptions, summarising and synthesising, and confirming action items made during the meeting.

In interview preparation, students may be asked to develop questions that are specific to the role they are interviewing for; practise the pattern situation-task-action-result; and check whether supporting examples are provided to support claims. DeepL or multilingual LLMs can be helpful to assist in back-translation and comparison in cross-cultural communication. More groups are asked to analyse three instances of refusal (human-authored, machine-translated, LLM with nuances for semantic correctness, politeness, institutional voice, and risk). Preventing the delegating of translation to clerical "translation.

These applications are best when the output from AI is an area of enquiry. They aren't very strong when a generic prompt yields the completed artefact that is evaluated. The use of ChatGPT in language instruction clearly highlights a duality: while generative technologies can be used to provide input, output, feedback, and material, the risks of "untrue" answers, "generic" phrasing, bias, and "skills decay" are well known (Kohnke et al., 2023; Meniado, 2023). It is therefore essential that purpose, boundaries, evidence, disclosure, human verification, and many other aspects of classroom management be informed.

The Changing Role of Teachers

AI is not intended to make the teacher on the margins it just shifts the point of expertise. Where explanations and drafts are plentiful, the limited resource is good sense. Teachers come to devote more and more effort to task design, the curation of evidence, explicit modelling of verification, needs diagnosis, interaction orchestration and apparently, to



making such discourse norms visible. Jeon and Lee (2023) envision LT systems and human teachers as complementary systems, with systems giving support at scale, and teachers in their role giving pedagogical, relational and contextual knowledge.

Familiarity with AI is necessary for this position. At a minimum, teachers should have a working knowledge of what generative systems generate, what can and can't be controlled and prompted (errors and biases), what data cannot be entered into generative systems and how use is to be disclosed. The skill of assessing social and ethical impacts is also an aspect of AI literacy (Long & Magerko, 2020; Ng et al., 2021). UNESCO's teacher framework (2024), which builds on this, intertwines AI foundations, pedagogy, and ethics, human-centred values, and professional learning.

Learning doesn't just happen by using a tool; it is more challenging when that tool is digital. It is challenging to ensure that AI is integrated into learning outcomes, specify when productive learning difficulty is needed and provide alternative ways of participation. TPACK tradition is beneficial as it does not consider technology knowledge as something that can be separated from pedagogy and content (Mishra & Koehler, 2006). For business communication, content knowledge encompasses the following elements: genre, workplace discourse, pragmatics, workplace practices and moral implications of messages.

The supervision of AI-produced content should also shift away from "watchdog" supervision. Instructors can review the process portfolio, the process history, the annotations, and have a conversation about the possibility of overreliance, as well as sample and check claims and references made in the process. Automated detector scores should not be considered as judgements (Perkins et al., 2024). A human-centred design approach clarifies expectations, and suspected misuse is the starting point for an evidence-based inquiry.

Lastly, teachers should have organisational assistance. Systematic reviews of evidence show that although teachers see opportunities in personalisation and support for workload management, they lack both training and transparency, and are not clear about the ethical aspects (Celik et al., 2022). Professional development, therefore, should be subject-matter specific, ongoing, and related to assessment and governance, not just demonstration of prompts.

Developing an AI-Ready Business Communication Curriculum

A true AI-ready curriculum is not used after; it's integrated. One ChatGPT workshop will not make up for a course where the assessments value the final generic product(s). Curriculum redesign requires starting by stating the goals for graduates' performance: writing evidence-based and audience-centred messages; being part of meetings and negotiations; communicating across languages and cultures; being accountable for professional decisions made; and evaluating AI-mediated information.

Five principles follow. Firstly, there needs to be co-development of communication competence and AI literacy. Prompting is through audience/task specification; genre, power, politeness and evidence are also analysed. Second, it is advised to proceed with the use of constrained support towards accountable independence. Using their own examples to compare or get some specific corrections; whether or not to use tools in their actual



projects is left open for novices to decide, as well as how, later supplemented by a choice and justification.

Thirdly, ethics must not be "declared," but rather "operational. Students learn about data minimisation, testing for biases, verifying sources, disclosure and escalating when things are beyond one's capability. Pedagogical, governance and operational responsibilities should be taken into account and coordinated in institutional policy frameworks instead of leaving it to individual teachers (Chan, 2023). Fourth, there should be a capture of the process and performance in authentic assessment. The client report is a document that can consist of a proposal, one or more source dossier file(s), a draft, one or more AI-use statements, peer feedback, the final document, a presentation, and an oral defence. Fifth, preparations for the workplace cannot simply be equated to efficiency in automation. Students must be able to collaborate with AI and understand scenarios in which human labour should have primacy, including those that are confidential, relationally critical, legally significant and/or developmentally crucial.

These competencies can be "spread" throughout a program in the curriculum mapping. Verification, editing and disclosure may be the primary focus of an introductory course. For intermediate-level courses, multilingual cases, team writing and simulations can be utilised. Capstone projects may involve outside clients or realistic stakeholders, and students must set up an AI protocol before capstone work. This sequence ensures that both a prohibition and indiscriminate use are prevented.

There should be a longitudinal dimension to evaluation. Programs should analyse whether students are using independent writing skills, whether they are reproducing feedback to other generations, whether they can communicate effectively with humans, and whether they are deciding fairly. Many research studies tend to focus on assessing attitudes and/or short-term outcomes (Li et al., 2024). There is a need for performance-based rubrics, feedback from various stakeholders, comparison of cohorts of students, delayed assessment and a check of the differential outcomes for students from a variety of language backgrounds and access modes.

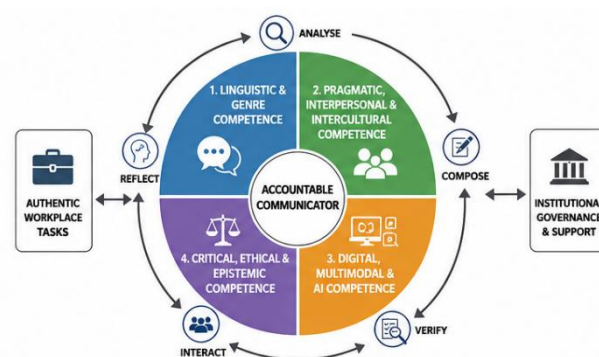


Figure 4: AI-Integrated Business Communication Competency Framework

Table 5: Best Practices for AI-Integrated Business Communication Curriculum



Curriculum principle	Implementation	Evidence of attainment
Human-centred alignment	Begin with communicative and learning outcomes, then select tools	Student can explain why AI was or was not appropriate
Progressive autonomy	Move from modeled critique to independent tool selection	Performance remains strong in an AI free transfer task
Integrated literacy	AI Teach operation, limits, verification, bias, privacy, and disclosure	Auditable process portfolio and accurate risk analysis
Authentic assessment	Use cases, clients, live interaction, and evolving constraints	Product, interaction, process, and oral defense align
Multilingual inclusion	Recognize language variation and provide multiple participation routes	Comparable opportunity and outcome monitoring across groups
Layered feedback	Combine self, peer, AI, and teacher feedback for distinct purposes	Revision rationale shows selective, informed uptake
Governance and review	Approve tools, protect data, support staff, and review policy regularly	Documented responsibilities, incident process, and periodic audit

Practical Strategies for Effective AI Integration

The first step in the integration process is to write an AI task-level statement. There should be more than one general institutional guideline; each assessment should specify: all functions that can be used, all functions that cannot be used, all disclosure required, all restrictions on the data, and what evidence must be retained by the student. Disclosure of the purpose, material included, substantive prompts, and final responsibility can be done with this simple disclosure to identify the tool. This will allow responsible use to be demonstrated, with no need for required disclosure of minor spelling corrections unless the task requires it.

The "should" for assessment redesign is to maintain the "construct" being assessed. If the goal is to compose an email to bring home on their own, on the other hand, AI could be ruled out during the execution. AI can be allowed, and criteria for marking should be judgement, evidence and improvement if the task is professional revision. Authorship is more visible, and it has a better resemblance with workplace communication than generic essays due to the short-lived tasks, oral defences, local cases, underlying evolving constraints, and reflective commentaries.

A PBL is practically based. A group could create a communication plan for an imaginary product recall. Each member examines stakeholders and evidence without the use of AI, generates a set of alternative messages and hostile questions, audits the output for any misinformation and/or blame, tone and accessibility, holds the press briefing for the use of



AI, and is required to submit a revision log. While the AI increases the number of scenarios, it can't make the team's choices. Cooperative learning can also make AI a subject of dispute. In a "three reviewers" activity, a draft will get self, peer and AI feedback. The writer classifies comments according to purpose, evidence, organisation, pragmatics and language; discusses non-accepted advice; incidentally, resolves conflicts. This helps to keep originality since it's not about how many edits are accepted; it's about the reasoning.

But, the independent capability should be intentionally kept. Courses can involve alternating AI-enabled practice and AI-free practice, may require baseline practice before AI is used and may employ delayed transfer tasks. Students can maintain a reliance dashboard to record which functions they offload and whether there were any changes in their unaided performance. Moderation is a response to research showing that differences in engagement and learning outcomes among learners are related to learner engagement and self-regulation (Koltovskaia, 2020; Yan & Zhang, 2024).

Last, there is a need for a classroom environment where it is OK not to know. Teachers should show an example of an error from AI, reveal their limited use and encourage students to quiz the output. The goal is not to accuse or appease machines, but to work together in a disciplined and evidence-based manner.

Future Directions

Business communication, enabled by AI, will likely soon be multimodal, have conversation models in the loop, integrated, and agent-driven. Future systems will integrate speech, gaze, documents, images, and live data; tutoring systems could carry learner models across multiple tasks; and workplace agents could be used for scheduling, summarising, translating, and drafting within organisational systems. Such developments may aid in more detailed simulations and prompt feedback, while also heightening the "surveillance," "consent," "authorship", and "accountability" concerns.

Research should be based on evidence rather than asking questions about students' liking of a tool. Priority designs are: longitudinal studies, delayed transfer studies, AI-only, human-only, and hybrid feedback, as well as analysis of oral, nonverbal, and multimodal communication and observation of real work performances. The literature must be extended to include more languages and regions, as well as larger numbers of institutions, proficiency levels and disability experiences. Negotiation outcomes, participation in the meeting, crisis communication, customer relations, intercultural repair, and ethical decision-making should be examined in the context of the business.

The new arguments regarding the validity of the multimodal assessment are also necessary. Accurately counting fillers and simultaneously misreading rhetorical pacing or an accent; an avatar's giving practice while message ranges are narrower in terms of "eye contact" and "professionalism. The construction of an automated score and what it reflects for whom should be studied. Learner-centred, teacher-centred, and employer-stakes, disability-aspects, language professional and system designer-centred, participatory research is vital.

The most promising research direction is one of human-AI collaboration, not human-AI competition. This involves recognising effective distribution of labour, planning for scaffolds that fade, tracking student calibration/trust building and assessing when AI adds value to the dialogue. A larger and more diverse ethics, collaboration, and methodological



rigour are needed in the broader AI in higher-education research landscape, as Bond et al. (2024) state. For this reason, business communication is particularly suited as a study area: Success can be measured both in terms of the text produced and also in generating effects in the relationship between the communicants, in their organisation, and as a result of the text in public.

Conclusion

While AI tools can enhance the materials available to those studying business communication, they also reveal the crucial difference between being "fluent" in a language and being "competent" in a language in the field of communication. The personalisation and expansion of feedback, the support for the participation of diverse languages, the simulation of learning, and the preparation for workplaces mediated by AI are among the applications for generative systems. However, these opportunities can be educationally significant if the students utilise AI to question decisions, practise alternatives and refine their actions.

The language difficulties are significant, too. Automated language can devastate intercultural relations if the output proves to be biased and/or not pragmatically appropriate; the automaticity of the language can result in loss of authorship and decrease productive struggle; hallucination can lead to fluency being mistaken for misinformation; and uncritical data sharing can result in violation of privacy. Defensible assessment and humane academic-integrity procedures are needed to complement detection technologies.

The challenge for teachers is in task design, which needs to consider a combination of independent work and the use of bounded AI, as well as human interaction and reflection. Researchers need to develop longitudinal evidence that is multimodal, multimodality and in workplace-based settings. The relevant alignment of a university's curriculum, staff development, assessment, purchasing, access and governance. Policymakers need to ensure the protection of human agency, linguistic diversity, privacy, equitable participation, and provide space for responsible experimentation.

Future business communication education should, therefore, not be AI-free nor AI-driven. Human-centred, evidence-led: learning where the learner can talk to the AI, learn using the AI, and learn about the AI, but can also make decisions about the need to question the AI, put boundaries on the AI, or use it without it.



References

- Bachman, L. F. (1990). *Fundamental considerations in language testing*. Oxford University Press.
- Bargiela-Chiappini, F., Nickerson, C., & Planken, B. (2013). *Business discourse* (2nd ed.). Palgrave Macmillan.
- Barrot, J. S. (2023). Using ChatGPT for second language writing: Pitfalls and potentials. *Assessing Writing*, 57, Article 100745. <https://doi.org/10.1016/j.asw.2023.100745>
- Bedington, A., Halcomb, E. F., McKee, H. A., Sargent, T., & Smith, A. (2024). Writing with generative AI and human-machine teaming: Insights and recommendations from faculty and students. *Computers and Composition*, 71, Article 102833. <https://doi.org/10.1016/j.compcom.2024.102833>
- Bender, E. M., Gebru, T., McMillan-Major, A., & Shmitchell, S. (2021). On the dangers of stochastic parrots: Can language models be too big? In *Proceedings of the 2021 ACM Conference on Fairness, Accountability, and Transparency* (pp. 610–623). Association for Computing Machinery. <https://doi.org/10.1145/3442188.3445922>
- Bhatia, V. K. (1993). *Analysing genre: Language use in professional settings*. Longman.
- Blodgett, S. L., Barocas, S., Daumé III, H., & Wallach, H. (2020). Language (technology) is power: A critical survey of “bias” in NLP. In *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics* (pp. 5454–5476). Association for Computational Linguistics. <https://doi.org/10.18653/v1/2020.acl-main.485>
- Bond, M., Khosravi, H., De Laat, M., Bergdahl, N., Negrea, V., Oxley, E., Pham, P., Chong, S. W., & Siemens, G. (2024). A meta systematic review of artificial intelligence in higher education: A call for increased ethics, collaboration, and rigour. *International Journal of Educational Technology in Higher Education*, 21, Article 4. <https://doi.org/10.1186/s41239-023-00436-z>
- Canale, M., & Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics*, 1(1), 1–47. <https://doi.org/10.1093/applin/1.1.1>
- Celik, I., Dindar, M., Muukkonen, H., & Järvelä, S. (2022). The promises and challenges of artificial intelligence for teachers: A systematic review of research. *TechTrends*, 66, 616–630. <https://doi.org/10.1007/s11528-022-00715-y>
- Chan, C. K. Y. (2023). A comprehensive AI policy education framework for university teaching and learning. *International Journal of Educational Technology in Higher Education*, 20, Article 38. <https://doi.org/10.1186/s41239-023-00408-3>
- Chan, C. K. Y., & Hu, W. (2023). Students’ voices on generative AI: Perceptions, benefits, and challenges in higher education. *International Journal of Educational Technology in Higher Education*, 20, Article 43. <https://doi.org/10.1186/s41239-023-00411-8>
- Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *IEEE Access*, 8, 75264–75278. <https://doi.org/10.1109/ACCESS.2020.2988510>



- Coffelt, T., Cosgrove, S., & Vance, B. (2022). Measuring business and professional communication skills. *Business and Professional Communication Quarterly*, 85(2), 169–191. <https://doi.org/10.1177/23294906221082235>
- Conrad, D., & Newberry, R. (2012). Identification and instruction of important business communication skills for graduate business education. *Journal of Education for Business*, 87(2), 112–120. <https://doi.org/10.1080/08832323.2011.576280>
- Cotton, D. R. E., Cotton, P. A., & Shipway, J. R. (2024). Chatting and cheating: Ensuring academic integrity in the era of ChatGPT. *Innovations in Education and Teaching International*, 61(2), 228–239. <https://doi.org/10.1080/14703297.2023.2190148>
- Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: The state of the field. *International Journal of Educational Technology in Higher Education*, 20, Article 22. <https://doi.org/10.1186/s41239-023-00392-8>
- Cummings, C., Monroe, S., & Watkins, M. (2024). Generative AI in first-year writing: An early analysis of affordances, limitations, and a framework for the future. *Computers and Composition*, 71, Article 102827. <https://doi.org/10.1016/j.compcom.2024.102827>
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
- Ding, L., & Zou, D. (2024). Automated writing evaluation systems: A systematic review of Grammarly, Pigai, and Criterion with a perspective on future directions in the age of generative artificial intelligence. *Education and Information Technologies*, 29, 14151–14203. <https://doi.org/10.1007/s10639-023-12402-3>
- Dizon, G., & Gayed, J. M. (2024). A systematic review of Grammarly in L2 English writing contexts. *Cogent Education*, 11(1), Article 2397882. <https://doi.org/10.1080/2331186X.2024.2397882>
- Escalante, J., Pack, A., & Barrett, A. (2023). AI-generated feedback on writing: Insights into efficacy and ENL student preference. *International Journal of Educational Technology in Higher Education*, 20, Article 57. <https://doi.org/10.1186/s41239-023-00425-2>
- Essel, H. B., Vlachopoulos, D., Essuman, A. B., & Amankwa, J. O. (2024). ChatGPT effects on cognitive skills of undergraduate students: Receiving instant responses from AI-based conversational large language models. *Computers and Education: Artificial Intelligence*, 6, Article 100198. <https://doi.org/10.1016/j.caeai.2023.100198>
- Farazouli, A., Cerratto-Pargman, T., Bolander-Laksov, K., & McGrath, C. (2024). Hello GPT! Goodbye home examination? An exploratory study of AI chatbots' impact on university teachers' assessment practices. *Assessment & Evaluation in Higher Education*, 49(3), 363–375. <https://doi.org/10.1080/02602938.2023.2241676>
- Farrokhnia, M., Banihashem, S. K., Noroozi, O., & Wals, A. (2024). A SWOT analysis of ChatGPT: Implications for educational practice and research. *Innovations in Education and Teaching International*, 61(3), 460–474. <https://doi.org/10.1080/14703297.2023.2195846>



- Godwin-Jones, R. (2022). Partnering with AI: Intelligent writing assistance and instructed language learning. *Language Learning & Technology*, 26(2), 5–24. <https://doi.org/10.64152/10125/73474>
- Guo, K., & Li, D. (2024). Understanding EFL students' use of self-made AI chatbots as personalized writing assistance tools: A mixed methods study. *System*, 124, Article 103362. <https://doi.org/10.1016/j.system.2024.103362>
- Guo, K., Pan, M., Li, Y., & Lai, C. (2024). Effects of an AI-supported approach to peer feedback on university EFL students' feedback quality and writing ability. *The Internet and Higher Education*, 63, Article 100962. <https://doi.org/10.1016/j.iheduc.2024.100962>
- Holmes, W., Porayska-Pomsta, K., Holstein, K., Sutherland, E., Baker, T., Shum, S. B., Santos, O. C., Rodrigo, M. T., Cukurova, M., Bittencourt, I. I., & Koedinger, K. R. (2022). Ethics of AI in education: Towards a community-wide framework. *International Journal of Artificial Intelligence in Education*, 32, 504–526. <https://doi.org/10.1007/s40593-021-00239-1>
- Hymes, D. (1972). On communicative competence. In J. B. Pride & J. Holmes (Eds.), *Sociolinguistics: Selected readings* (pp. 269–293). Penguin.
- Jeon, J., & Lee, S. (2023). Large language models in education: A focus on the complementary relationship between human teachers and ChatGPT. *Education and Information Technologies*, 28, 15873–15892. <https://doi.org/10.1007/s10639-023-11834-1>
- Jeon, J., Lee, S., & Choi, S. (2024). A systematic review of research on speech-recognition chatbots for language learning: Implications for future directions in the era of large language models. *Interactive Learning Environments*, 32(8), 4613–4631. <https://doi.org/10.1080/10494820.2023.2204343>
- Ji, Z., Lee, N., Frieske, R., Yu, T., Su, D., Xu, Y., Ishii, E., Bang, Y. J., Chen, D., Dai, W., Chan, H. S., Madotto, A., & Fung, P. (2023). Survey of hallucination in natural language generation. *ACM Computing Surveys*, 55(12), Article 248. <https://doi.org/10.1145/3571730>
- Kankaanranta, A., & Louhiala-Salminen, L. (2013). “What language does global business speak?” The concept and development of BELF. *Iberica*, 26, 17–34.
- Kessler, G. (2018). Technology and the future of language teaching. *Foreign Language Annals*, 51(1), 205–218. <https://doi.org/10.1111/flan.12318>
- Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language teaching and learning. *RELC Journal*, 54(2), 537–550. <https://doi.org/10.1177/00336882231162868>
- Koltovskaia, S. (2020). Student engagement with automated written corrective feedback provided by Grammarly: A multiple case study. *Assessing Writing*, 44, Article 100450. <https://doi.org/10.1016/j.asw.2020.100450>
- Kulik, J. A., & Fletcher, J. D. (2016). Effectiveness of intelligent tutoring systems: A meta-analytic review. *Review of Educational Research*, 86(1), 42–78. <https://doi.org/10.3102/0034654315581420>



- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.
- Li, B., Lowell, V. L., Wang, C., & Li, X. (2024). A systematic review of the first year of publications on ChatGPT and language education: Examining research on ChatGPT's use in language learning and teaching. *Computers and Education: Artificial Intelligence*, 7, Article 100266. <https://doi.org/10.1016/j.caeai.2024.100266>
- Long, D., & Magerko, B. (2020). What is AI literacy? Competencies and design considerations. In *Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems* (pp. 1–16). Association for Computing Machinery. <https://doi.org/10.1145/3313831.3376727>
- Louhiala-Salminen, L., & Kankaanranta, A. (2012). Language as an issue in international internal communication: English or local language? If English, what English? *Public Relations Review*, 38(2), 262–269. <https://doi.org/10.1016/j.pubrev.2011.12.021>
- Ma, W., Adesope, O. O., Nesbit, J. C., & Liu, Q. (2014). Intelligent tutoring systems and learning outcomes: A meta-analysis. *Journal of Educational Psychology*, 106(4), 901–918. <https://doi.org/10.1037/a0037123>
- Mahapatra, S. (2024). Impact of ChatGPT on ESL students' academic writing skills: A mixed methods intervention study. *Smart Learning Environments*, 11, Article 9. <https://doi.org/10.1186/s40561-024-00295-9>
- Mehrabi, N., Morstatter, F., Saxena, N., Lerman, K., & Galstyan, A. (2021). A survey on bias and fairness in machine learning. *ACM Computing Surveys*, 54(6), Article 115. <https://doi.org/10.1145/3457607>
- Meniado, J. C. (2023). The impact of ChatGPT on English language teaching, learning, and assessment: A rapid review of literature. *Arab World English Journal*, 14(4), 3–18. <https://doi.org/10.24093/awej/vol14no4.1>
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Ng, D. T. K., Leung, J. K. L., Chu, S. K. W., & Qiao, M. S. (2021). Conceptualizing AI literacy: An exploratory review. *Computers and Education: Artificial Intelligence*, 2, Article 100041. <https://doi.org/10.1016/j.caeai.2021.100041>
- Nickerson, C. (2005). English as a lingua franca in international business contexts. *English for Specific Purposes*, 24(4), 367–380. <https://doi.org/10.1016/j.esp.2005.02.001>
- Ouyang, F., & Jiao, P. (2021). Artificial intelligence in education: The three paradigms. *Computers and Education: Artificial Intelligence*, 2, Article 100020. <https://doi.org/10.1016/j.caeai.2021.100020>
- Perkins, M., Roe, J., Vu, B. H., Postma, D., Hickerson, D., McGaughan, J., & Khuat, Q. H. (2024). Simple techniques to bypass GenAI text detectors: Implications for inclusive education. *International Journal of Educational Technology in Higher Education*, 21, Article 53. <https://doi.org/10.1186/s41239-024-00487-w>



- Qian, Y. (2025). Pedagogical applications of generative AI in higher education: A systematic review of the field. *TechTrends*, 69, 1105–1120. <https://doi.org/10.1007/s11528-025-01100-1>
- Rios, J. A., Ling, G., Pugh, R., Becker, D., & Bacall, A. (2020). Identifying critical 21st-century skills for workplace success: A content analysis of job advertisements. *Educational Researcher*, 49(2), 80–89. <https://doi.org/10.3102/0013189X19890600>
- Robles, M. M. (2012). Executive perceptions of the top 10 soft skills needed in today's workplace. *Business Communication Quarterly*, 75(4), 453–465. <https://doi.org/10.1177/1080569912460400>
- Rudolph, J., Tan, S., & Tan, S. (2023). ChatGPT: Bullshit spewer or the end of traditional assessments in higher education? *Journal of Applied Learning & Teaching*, 6(1), 342–363. <https://doi.org/10.37074/jalt.2023.6.1.9>
- Steiss, J., Tate, T., Graham, S., Cruz, J., Hebert, M., Wang, J., Moon, Y., Tseng, W., Warschauer, M., & Olson, C. B. (2024). Comparing the quality of human and ChatGPT feedback of students' writing. *Learning and Instruction*, 91, Article 101894. <https://doi.org/10.1016/j.learninstruc.2024.101894>
- Succi, C., & Canovi, M. (2020). Soft skills to enhance graduate employability: Comparing students and employers' perceptions. *Studies in Higher Education*, 45(9), 1834–1847. <https://doi.org/10.1080/03075079.2019.1585420>
- Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge University Press.
- Thi, N. K., & Nikolov, M. (2022). How teacher and Grammarly feedback complement one another in Myanmar EFL students' writing. *The Asia-Pacific Education Researcher*, 31(6), 767–779. <https://doi.org/10.1007/s40299-021-00625-2>
- Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. *Smart Learning Environments*, 10, Article 15. <https://doi.org/10.1186/s40561-023-00237-x>
- UNESCO. (2023). *Guidance for generative AI in education and research*. <https://unesdoc.unesco.org/ark:/48223/pf0000386693>
- UNESCO. (2024). *AI competency framework for teachers*. <https://unesdoc.unesco.org/ark:/48223/pf0000391104>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
- Williamson, B., & Eynon, R. (2020). Historical threads, missing links, and future directions in AI in education. *Learning, Media and Technology*, 45(3), 223–235. <https://doi.org/10.1080/17439884.2020.1798995>
- Yan, D., & Zhang, S. (2024). L2 writer engagement with automated written corrective feedback provided by



Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—Where are the educators? *International Journal of Educational Technology in Higher Education*, 16, Article 39. <https://doi.org/10.1186/s41239-019-0171-0>