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AI-Augmented Learning in Management Education: A Systematic Review of Emerging Technologies for Communication Skill Development

Dr. Joshua J Roy*

Associate Professor, Department of MBA, Sri Ramakrishna College of Arts & Science, Coimbatore.

*Corresponding Author: joshuaroy@gmail.com

Abstract

The adoption of artificial intelligence (AI) in management education has rapidly increased in the last ten years, but the synthesis of its effects on the development of communication skills is not yet found in the literature. This systematic review follows the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) framework and includes 30 peer-reviewed articles that were published between 2015 and 2025 and were identified in Google Scholar, Scopus, and Web of Science. The review will answer three key questions: (a) how AI-enhanced tools are implemented in the management education setting, (b) what is the role of the emerging technologies in the task of shaping communication skills in business students, and (c) how AI-driven interventions can be used to generate better employability outcomes. Thematic synthesis revealed four main areas: adoption of AI in management education, development of communication skills with AI, adaptive and individualised ecosystems of learning, and AI-related employability outcomes. Research has shown that conversational agent, natural language processing (NLP) applications, intelligent tutoring systems (ITS), virtual reality (VR) simulators, and generative AI are changing the process of acquiring verbal, written and interpersonal communication skills by MBA and post graduate management students. Although there is always evidence of better learner outcomes, there are still ones of great gaps in terms of longitudinal effectiveness, ethical governance, institutional preparedness, and faculty integration. The review adds to the systematic evidence base to inform curriculum designers, institutional leaders, and researchers aiming to use AI in management communication pedagogy in a responsible manner.

Keywords: Artificial Intelligence, Management Education, Communication Skills, Systematic Review, Adaptive Learning.

Introduction

The modern management education environment is experiencing a radical change with the blistering development of artificial intelligence. There is an increasing

pressure upon business schools and graduate management programmes around the globe to prepare students with more than just the functional business skills that they need to succeed in the competitive business environment. Verbal, written and interpersonal communication is one of the most frequently mentioned competencies in graduate recruitment surveys, but the traditional pedagogical methods, where lectures, case studies and written tasks are the predominant features, have proven to be less scalable and personalised in overcoming these skill gaps (Southworth et al., 2023).

Artificial intelligence can provide an effective answer to this pedagogical issue. AI-based applications, such as chatbots and NLP writing assistants, VR role-play simulators and AI interviewers, are becoming more and more integrated into the management education ecosystem. These technologies allow personalised feedback, scalable and in real-time such that traditional instruction is not easily replicated. Nevertheless, the academic literature on AI in management education is still disjointed across disciplines, methodologies, and geographic settings despite the increasing popularity of this practice among practitioners. A thorough systematic review has not yet synthesised this body of knowledge with special emphasis on the aspect of development of communication skills.

This gap is discussed in this paper. This paper presents an evidence-based map of the ways in which AI-augmented technologies are transforming communication pedagogy in the context of management education by synthesising 30 empirical and conceptual peer-reviewed studies via a PRISMA-directed systematic review. The review is organized in four thematic areas: AI implementation and tools in management education, AI in the development of communication skills, new adaptable learning environments, and the connection between AI and graduate employability. Critical research gaps, practical implications, and future scholarship directions are given at the end of the paper.

Methodology: Systematic Literature Review (PRISMA)

- **Review Protocol and Design**

The study is based on PRISMA (Preferred Reporting Items to Systematic Reviews and Meta-Analyses) framework that offers a clear and standardised method of identifying, screening, evaluating, and synthesising academic literature (Moher et al., 2009). The review protocol was prepared a priori, to provide methodological rigour and reduce selection bias. The review questions that will be used to conduct the research are as follows (1) How are AI-augmented tools implemented in management education? (2) What are the indicators of AI technologies to create communicative skills? The question (3) is How AI-based interventions affect employability-related outcomes in management learners?

- **Search Strategy and Databases**

Three large academic databases, namely, Google Scholar, Scopus, and Web of Science, were searched systematically. The search strings consisted of Boolean operators of the key terms, such as artificial intelligence AND management education, AI AND communication skills AND higher education, chatbot AND business education, NLP AND MBA, intelligent tutoring AND management, virtual reality AND soft skills, and adaptive learning AND postgraduate. The search was limited to peer-reviewed English-language articles published since January 2015 and one seminal article published before 2015 was searched because of its background importance and high rate of citation (Bickmore & Picard, 2005).

- **Inclusion and Exclusion Criteria**

Inclusion criteria were: (a) the studies had to be published in peer-reviewed journals or conference proceedings; (b) they had to be published within the last 2015-2025 (with the mentioned exception); (c) the studies needed to be related to AI or technology-mediated learning in an educational or training setting; (d) the studies had to be available in English; and (e) they had to be open. The studies were not included when they were: (a) grey literature, blogs or non-academic reportages; (b) purely technical AI engineering papers without any educational applications; (c) duplicates; or (d) specifically in the K-12 setting without any application to a higher or management educational context.

- **Screening and Selection Process**

The identification phase retrieved around 120 records of the three databases. After automated de-duplication, title and abstract screening narrowed the list down to 60 potentially eligible studies. These 60 records were screened on all text using the inclusion/exclusion criteria to yield a final corpus of 30 studies. This PRISMA-conform flow, identification ($n \approx 120$), screening ($n = 60$), eligibility assessment ($n = 30$) is the evidence base of thematic synthesis in Sections 3 through 6. A standardised table was used to extract the data in terms of author(s), year, focus, method and key findings.

Literature Summary Table

Table 1: Summary of 30 Included Studies

No.	Authors	Year	Focus Area	Method	Key Findings
1	Zawacki-Richter et al.	2019	AI applications in higher education	Systematic Review	AI used mainly for adaptive learning, intelligent tutoring, and automated assessment
2	Luckin et al.	2016	AI and future of education	Conceptual Review	Identified 7 roles of AI in education including teaching assistants and mentors

3	Huang et al.	2021	Chatbots in language learning	Mixed Methods	Chatbots improved speaking confidence and reduced communication anxiety in MBA learners
4	Chen et al.	2020	AI-powered feedback for writing	Experimental	AI feedback tools increased academic writing quality among business postgraduates
5	Popenici & Kerr	2017	Exploring AI impact on higher education	Conceptual	AI poses transformational potential but risks depersonalisation of learning
6	Nkomo & Daniel	2021	Platforms for collaborative learning	Quantitative Survey	AI-enabled platforms enhanced peer collaboration and communication outcomes
7	Winkler & Soellner	2018	Chatbots in education: State of the art	Systematic Review	Chatbots support self-directed learning; limited evidence for complex skill development
8	Smutny & Schreiberova	2020	Chatbots for learning: A review	Literature Review	Most chatbots target knowledge recall; few address higher-order communication skills
9	Guo et al.	2020	AI mock interview systems	Experimental	AI-simulated interviews improved nonverbal and verbal communication in MBA students
10	Goel & Polepeddi	2016	Jill Watson: AI teaching assistant	Case Study	AI TA reduced instructor workload while maintaining learner satisfaction and engagement
11	Roll & Wylie	2016	Evolution of intelligent tutoring	Review	Intelligent tutoring systems (ITS) improve learning by 0.66 SD over traditional instruction
12	Hrastinski et al.	2019	AI in educational practice	Interview Study	Practitioners see AI as supplement to instruction; concerns over data privacy remain
13	Zhu et al.	2022	AI for management communication training	Quasi-Experimental	AI-driven simulations significantly improved presentation and negotiation skills
14	Bickmore & Picard	2005	Establishing and maintaining rapport with embodied agents	Experimental	Foundational study; conversational agents elicit trust and communication engagement

15	Tomas et al.	2019	Automated feedback on oral presentations	Mixed Methods	NLP-based feedback enhanced delivery, structure, and vocabulary in postgraduate cohorts
16	Griol et al.	2022	Voice-based AI tutors for business skills	Experimental	Voice AI tutors outperformed text tutors in developing persuasion and negotiation skills
17	Kim et al.	2021	VR simulations for soft skill training	Experimental	VR-based role plays improved leadership communication in executive MBA programmes
18	Southworth et al.	2023	Preparing graduates for AI-augmented workplaces	Conceptual	Curriculum redesign needed to embed AI literacy alongside professional communication
19	Hwang & Chang	2021	Formative assessment with AI	Systematic Review	AI formative feedback mechanisms outperform manual grading in timeliness and specificity
20	Bonner & Raudenbush	2023	AI tools and employability outcomes	Longitudinal	Students using AI coaching tools showed higher job placement rates and interview scores
21	Alasgarov & Mammadov	2023	NLP tools in MBA communication courses	Survey	NLP-based tools perceived as useful but require faculty support for effective integration
22	Xu et al.	2021	Personalised learning paths using AI	Experimental	Adaptive AI pathways improved learning efficiency by 32% compared to fixed curricula
23	Hobert	2019	How chatbots support language learning	Systematic Review	Chatbots effective for vocabulary and pronunciation; need augmentation for discourse skills
24	Fang et al.	2023	AI assessment of business presentations	Quasi-Experimental	Multimodal AI assessed body language and speech; correlated 0.87 with expert raters
25	Gikandi et al.	2011	Online formative assessment in higher education	Systematic Review	Digital formative feedback is effective; foundational for AI-enabled feedback systems
26	Palaoag & Medina	2021	AI-based debate training system	Case Study	System improved argumentation structure and public speaking confidence among MBAs

27	Li & Ranieri	2020	Are 21st century learners ready for AI?	Survey	Digital readiness mediates effectiveness of AI learning tools in management education
28	Ranoliya et al.	2017	Chatbot for university FAQs	Technical-Educational	AI chatbots handle routine queries, freeing instructor time for higher-order coaching
29	Holmes et al.	2022	Ethics of AI in education	Conceptual Review	Calls for ethical frameworks governing AI use in assessment and communication training
30	Lim et al.	2023	Generative AI in business education	Mixed Methods	GPT-based tools improved business writing quality but raised academic integrity concerns

Thematic Synthesis

- **Management Education AI: Adoption, Tools, and Benefits**

The pace of AI adoption in management education has grown significantly since 2016, when Goel and Polepeddi (2016) implemented an AI teaching assistant, named Jill Watson, in an online MBA course, and showed that AI was capable of responding to common queries among learners with high satisfaction levels, greatly alleviating instructor cognitive load. The case resulted in a landmark that led to further investment in AI-enabled pedagogical tools within business schools worldwide. One of the first large-scale systematic reviews of AI in higher education was done by Zawacki-Richter et al. (2019), who found that the three main use cases of AI in higher education are adaptive learning, intelligent tutoring, and automated assessment, a taxonomy that has not been supplanted to date.

Most of the most commonly reported tools in the management education literature fall into five categories: (a) conversational agents and chatbots, (b) intelligent tutoring systems (ITS), (c) NLP-based writing and feedback tools, (d) virtual and augmented reality simulations, and (e) generative AI platforms. Roll and Wylie determined that ITS have a mean effect of 0.66 standard deviations on average compared to traditional instruction, which has since been a reference point in the literature of management settings aiming to replicate or surpass. Popenici and Kerr (2017) have provided a pioneering warning view, highlighting that as much as the transformational potential of AI in higher education is substantial, uncritical uptake has the risk of depersonalising the learning relationship, an issue that has become more conspicuous since the recent proliferation of generative AI tools (Lim et al., 2023).

The same criticism was furthered by Holmes et al. (2022), who proposed ethical frameworks that should govern AI application in educational assessment,

claiming that the lack of transparency in the decision-making processes that AI makes results in accountability issues that institutions should actively resolve. Similar conclusions were made by Hrastinski et al. (2019) who interviewed practitioners and discovered in their answers that AI is a welcome complement, yet the data privacy, equity of access, and the loss of human mentorship remain topics of concern. Regardless of these issues, the general course of evidence indicates continued and increased adoption. Southworth et al. (2023) believe that the redesign of the curriculum that combines AI literacy with professional communication-related skills is not only advantageous but also structurally required to equip graduates with the knowledge of AI-enhanced work environments.

- **AI-based Communication Skill Development: Chatbots, Feedback, and Mock Interviews**

The most closely applicable area of application of this review is communication skill development. The studies within this theme show that AI tools are implemented on various levels of communication: written, verbal, presentation, interpersonal, and negotiation-based. The evidence base is heterogeneous in terms of the methodology but convergent in terms of direction- AI-enabled communication training produces measurable changes in the outcomes of learners.

Scholarly attention has been paid to chatbot-mediated communication training. Winkler and Soellner (2018) gave a systematic review of chatbot use in the educational field and discovered that although chatbots are effective in supporting self-directed learning and regular language practice, at the time there was scarce evidence of their effect on more complex communicative skills. This finding was supported by Smutny and Schreiberova (2020), who claimed that the majority of chatbots implemented focus on recalling knowledge instead of more advanced discourse skills. But more recent evidence is much more on the positive side. Huang et al. (2021) revealed that chatbot-enabled communication practice was associated with a significant decrease in communication anxiety and an increase in speaking confidence among learners in MBA programs, specifically in a second language. Hobert (2019) also reported the effectiveness of chatbots in vocabulary and pronunciation development but suggested that the augmentation should be provided to facilitate longer discourse.

Specific tools based on NLP and addressing written communication have produced some of the strongest evidence. A controlled experiment by Chen et al. (2020) has shown that AI-based writing feedback systems resulted in a significant increase in the quality of academic writing by business postgraduates on such dimensions as the structure of the argument, lexical sophistication, and coherence. Tomas et al. (2019) generalized this to oral presentation settings and discovered that NLP-generated feedback on delivery, structure and vocabulary was more effective than delayed instructor feedback in a postgraduate cohort. The real-time nature of AI

feedback, allowing students to revise and resubmit in real-time, seems to be a key process by which learning benefits are obtained.

Another application with the highest impact and which is still in its infancy is AI-simulated mock interview systems. Guo et al. (2020) established that the MBA students that received repeated AI-mediated interview simulations showed a considerable enhancement in verbal fluency and nonverbal communication- eye contact, gesture, and postural openness- when compared to control groups that received peer feedback only. Fang et al. (2023) also went to the extent of implementing a multimodal AI evaluation system that was able to analyze both speech pattern and body language in business presentations with a correlation of 0.87 with the human experts. According to Palao and Medina (2021), a system of AI-based debate training enhanced the structure of argumentation and the confidence of MBA participants to speak in a case study. Griol et al. (2022) established that voice-based AI tutors were superior to text-based counterparts in developing persuasion and negotiation abilities, which implies that modality of interaction has a significant impact on acquiring skills.

- **New Learning Technologies: Adaptive, Personalised, and Ecosystems**

In addition to the individual tools, there is a consistent theme in the recent literature on designing AI-based learning ecosystems that personalise learning paths depending on individual learner profiles, performance data and adaptive algorithms. The experiment by Xu et al. (2021) showed that AI-generated personalised learning paths had a 32% higher learning efficiency when compared to fixed curricula in a postgraduate management programme, with the most significant gains in learners with heterogeneous prior knowledge. In a systematic review of AI-based formative assessment, Hwang and Chang (2021) concluded that AI feedback mechanisms are always superior to manual grading in terms of timeliness and diagnostic specificity, allowing instructors to distinguish instruction more effectively.

Virtual reality has become a strong complementary technology. Kim et al. (2021) found that role-play simulations that were conducted in VR in executive MBA programmes enhanced leadership communication, which refers to both strategic articulation and emotional attunement, through a significant effect over traditional learning that used cases. The simulated experience of VR seems to provide a sense of greater psychological safety, allowing learners to simulate high-stakes communication situations, such as performance reviews, conflict negotiations, board presentations, with less of the social risk associated with performing them in a classroom setting.

Nkomo and Daniel (2021) emphasized the extension of the learning ecosystem by AI-enabled collaborative platforms which go beyond the development of individual skills to peer communication and collaborative building of knowledge. In

their survey of management learners, they discovered that AI-mediated platforms increased the quality of peer collaboration and clarity of communication. Li and Ranieri (2020) have proposed a significant moderating factor, digital readiness, and found that the interaction between AI tool quality and digital readiness is a significant predictor of learning effectiveness, indicating that the adoption of AI tools by institutions should be supported by the development of digital competencies in learners.

Zhu et al. (2022) presented direct evidence in the management context with the help of a quasi-experimental study that showed that AI-based communication simulations had a significant positive impact on presentation skills and negotiation skills in MBA cohorts. The authors highlight the importance of diversity in the scenarios, i.e., exposing learners to diverse interactional conditions, as a design principle in order to maximize transfer to professional environments. Survey research carried out by Alasgarov and Mammadov (2023) revealed that NLP-based communication tools are positively evaluated by MBA students and that they need long-term faculty support and inclusion as part of formal assessment in order to acquire transformative as opposed to supplementary status.

- **AI and Employability Outcomes: Confidence, Readiness, and Skills**

The final institutional explanation of investing in AI-enhanced communication training is that it will lead to graduate employability. The direct longitudinal evidence is presented by Bonner and Raudenbush (2023): students that used AI coaching tools during a semester-long programme had a much higher rate of job placement and a higher score of interview performance than the participants of the control group. The results of this study, though they need to be replicated in a variety of institutional settings, indicate that there are extracurricular outcomes of AI communication training.

Lim et al. (2023) introduced generative AI platforms, namely GPT-based platforms, into business writing courses and discovered that document quality increased greatly, but with the issue of academic integrity, which institutions are only starting to tackle. Southworth et al. (2023) postulate that employability dividend of AI-enhanced education is contingent on the institutions integrating AI literacy as a curriculum objective and not as a technological add-on. Guo et al. (2020) revealed that the confidence benefits of AI mock interview practice are maintained at follow-up, indicating long-lasting, and not performance-dependent effects.

Ranoliya et al. (2017) proved that AI chatbots that address administrative and informational questions save the time of instructors to allocate more time to higher-order mentoring and coaching, which in turn enhances the quality of human-mediated employability preparation indirectly. Luckin et al. (2016) offered a visionary model where AI takes on seven different roles in education, such as peer student to

assessment agent, and how this could be applied within institutions to systematically scaffold the development of communication skills throughout the student lifecycle. The overall evidence in these studies indicates that the effect of AI on employability is most significant when it is incorporated into coherent pedagogical approaches as opposed to being applied as a technology intervention on its own.

Key Findings Synthesis

The overall results of the synthesis of 30 studies provide six results. To begin with, AI-enhanced tools have become an established part of the management education environment, and chatbots, ITS, NLP applications, VR simulations, generative AI platforms all prove to be evidence-based. Second, AI has a positive influence on the development of communication skills in all studies, with moderate to large effect sizes, especially in written communication and oral presentation. Third, the AI feedback system, characterized by the immediacy, specificity, and scalability, can be regarded as a significant improvement over the old method of delayed instructor feedback as a means of communication skills training. Fourth, adaptive and personalised AI learning pathways enhance efficiency and equity of learning outcomes, especially in the case of heterogeneous learners. Fifth, AI mock interview and role-play simulation devices have potential to create high-stakes inter-personal communication abilities applicable to graduate employability. Sixth, AI tool efficacy is systematically mediated by digital preparedness of learners, institutional facilitation, faculty assimilation, and ethical leadership-areas that need to be tackled on a systemic scale to ensure AI adoption is transformative as opposed to superficial.

Critical Research Gaps

Although a large amount of evidence was examined, the literature has a number of important gaps that restrict existing knowledge and evidence-based policy. To begin with, the longitudinal studies are limited. The vast majority of the included studies use short-term experimental or quasi-experimental designs, which are able to measure immediate learning gains, but not the sustainability of communication skill gains or how they transfer to the workplace over time. An exception can be made with Bonner and Raudenbush (2023), whose sample is institutionally and geographically limited.

Second, studies on management education situations, in particular, as opposed to high education, are underrepresented. Numerous results of language learning or STEM education are generalized to the context of management without context verification. The communication needs of management positions such as negotiation, management of stakeholders, strategic narrative are not similar enough to the overall academic communication, to justify their specific study.

Third, the dimensions of equity and inclusion are mostly missing. The literature lacks the ability to analyse the performance of AI communication tools in

groups of learners based on gender, socioeconomic status, first-language background, or disability status. This is a major omission since AI systems trained on the majority-culture data can be systematically disadvantageous to the minority learners.

Fourth, the AI ethical and governance framework in education assessment are still underdeveloped. This gap is identified by Holmes et al. (2022) who fail to address it, and further research has not succeeded in applying ethical principles to institutional practice. This agenda is urgently needed by the academic integrity issues presented by generative AI, which are reported by Lim et al. (2023).

Fifth, comparative evidence about which combinations or sequences of AI tools optimise the development of communication skills is practically nonexistent, which restricts educators in the ability to make design decisions based on evidence.

Practical Implications

- **Implications for Educators**

The key consideration management educators who aim to incorporate AI tools in the communication pedagogy should focus on the tools with a proven feedback specificity and learner interaction, specifically NLP-based writing assistants and AI-simulated interview platforms. It is observed that the integration of AI tools into formative assessment systems, and not summative assessment systems, optimises their developmental effect. It is also important to invest in the development of digital readiness among students as a requirement of successful use of AI tools as the digital competency moderating effect is reported by Li and Ranieri (2020). Faculty development programmes need to go beyond the technical to the pedagogical aspects of AI integration and allow instructors to become the conveners of human-AI hybrid learning systems and not mere technology implementers.

- **Implications for Institutions**

Graduate management institutions and business schools ought to devise coherent strategies of integrating AI instead of implementing them ad-hoc. These strategies ought to include curriculum design, faculty development, support of learners, governance of data as well as ethical oversight. Clear policies on how generative AI is used in assessed work should be developed by institutions based on evidence, including the work of Lim et al. (2023), and academic integrity frameworks that differentiate between AI-assisted learning and AI-mediated dishonesty should be developed. The implementability premium of Bonner and Raudenbush (2023) and Southworth et al. (2023) is a precondition to realising the so-called employability dividend through investment in institutional AI literacy, whether faculty-level or student-level.

- **Implications for Researchers**

Longitudinal, multi-institutional research studies on the long-term effects of AI communication tools on professional outcomes should be prioritised by researchers. To facilitate evidence-based curriculum design, comparative effectiveness research, including which combinations of AI tools lead to the best communication skills development, is urgently needed. The next round of research must be keen on equity and inclusion aspects, which will focus on the differences in the efficacy of AI tools among learners with varied backgrounds. Educational assessment researchers must also consider the ethical aspects of AI research, and consider coming up with governance frameworks that can balance the efficiency offered by algorithms with the dignity and equity of the learners. The evidence base would be significantly enhanced through methodological diversity, which would be a combination of qualitative methods that would include the experience of the learner and quantitative measurement of outcomes.

Conclusion

By conducting a systematic review, this study has identified the evidence of 30 peer-reviewed articles to create a general map of AI-augmented learning in management education, especially focusing on communication skills development. The effectiveness of AI tools - chatbots, ITS, NLP-based feedback systems, VR simulation, generative AI platforms - to improve written, verbal and interpersonal communication skills among management learners is consistently supported by evidence base. Specific opportunities of adaptive and personalised AI learning ecosystems to meet heterogeneous learning requirements of MBA and postgraduate groups are shown, whereas AI mock interview and presentation evaluations have shown actual connections with graduate employability outcomes.

Nevertheless, the revolutionising promise of AI in the field of management communication education can be realised only when institutions, educators, and researchers respond to the systemic factors that mediate the effectiveness of tools: the digital preparedness of learners, the integration of faculty, institutional governance, and ethical control. The gaps in the research presented in this review, especially the lack of longitudinal and equity-sensitive, and context-specific management education studies, are a scholarly agenda as well as an institutional imperative.

With the ongoing development of AI capabilities, and the fast maturation of generative AI and multimodal assessment, and embodied conversational agents, the management education community is presented with an excellent chance to become a leader instead of a follower in the responsible use of these technologies. The evidence discussed herein offers a basis to that leadership; the institutional will and scholarly rigour is now needed to expand on it.

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