Research Square

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AI and English Written Communication in Academic Email Correspondence among University Faculty in Higher Education

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Research Article

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Abstract

Background

ChatGPT is rapidly used by university faculty for English L2 writing. While student-focused AI research has grown, faculty pragmatic competence and discursive autonomy remain empirically under-examined. This gap is critical since faculty produced gatekeeping academic discourse, and AI mediation can reshape both authorial ownership and text quality.

Aim

This research aimed to assess how ChatGPT use impacts L2 writing autonomy, perceived authorial control, writing dependence, and self-efficacy among university faculty, and how it is evident in their pragmatic competence and discourse quality.

Methods

Explanatory sequential mixed methods design was used to conduct a study among 407 participants. Five hypotheses across study's latent constructs were tested through SmartPLS 4 supplemented by 5000 bootstrapped resamples. For qualitative analysis, experts linguists independently rated through open ended responses of 33 participants, the statistical reliability was measured through Cohen Kappa. Moreover, reflexive thematic analysis following Braun and Clarke (2006) was conducted on email samples and participant reflective notes, generating three themes related to ChatGPT use, perceived authorial ownership, and pragmatic authenticity.

Findings:

The results revealed that AI-mediated use of writing had a significant positive effect on the increased writing dependence among faculty members of the university ($p = 0.001$), as well as increased perceived authorial control ($p = 0.001$). Additionally, the dependence and writing autonomy had a negative interaction effect (95%CI = -0.163, $p < 0.001$) whereas perceived authorial control had a positive effect (95%CI = 0.658, $p < 0.001$) in relation to writing self-efficacy in English academic communication. Overall, those with high AI use had lower scores in the discourse quality, even though the participants stated that they felt more in control and had better self-efficacy.

Conclusion

The study highlighted that ChatGPT produces a measurable divergence between perceived and actual pragmatic competence among L2 faculty writers with institutional consequences for academic

discourse production in higher education.

1. Introduction

The integration of ChatGPT into professional and educational contexts represents one of the most far-reaching changes in communication technology witnessed in higher education (Ali et al., 2024). Members of university faculties are using AI-enhanced platforms increasingly as primary tools for written communication in English, such as university reports, academic letters, grant applications, and scholarly papers (Salih et al., 2025). Recent studies reported that 63% of Najran University's faculty members have used generative AI tools, specifically ChatGPT for academic and email writing purposes (Algouzi & Alzubi, 2023). ChatGPT is solely used for drafting emails, assessing writing papers, and completing text-based tasks (Punar Özçelik & Yangın Ekşi, 2024). This was confirmed by Liang et al. (2025), who identified that the use of LLM-assisted writing has become common throughout academic society, which faculty usage has increased exponentially after 2022, but less than 8% of published studies using AI have sampled professional or faculty writers.

This trend is not incidental, but is reflective of a wider structural change in how second language (L2) writers think, conceptualise, revise, and finally own their written texts. Proponents have suggested that large language models might serve for L2 scholars in English-dominant academic writing (Seddiki & Korichi, 2026). It may reduce obstacles for participating in scholarly activities, and decrease disparities between native and non-native speaking researchers. The implication of the generative AI writing is that it raises serious concerns about what knowledge is produced, and how this production may result in the knowledge consumed by L2 writers gradually eroded (Nelson et al., 2025).

However, the main issue is that ChatGPT, as an adaptive AI system, is capable of simulating human-like dialogue and dynamically adjusting to the needs of a learner, representing a considerable departure in the field of traditional language-teaching (Vo, 2025). However, the primary but limited examined concern is the manner in which this mediation occurs in specific scenarios between university faculty who, as professionals and in a second language, are the producers of academic discourse (Iqbal et al., 2021). ChatGPT has demonstrated potential in facilitating many aspects of writing growth including lexical richness by 28%, grammatical accuracy by 34%, syntactic complexity, coherence, text organization, and self-regulated revision (Alshehri, 2025).

This gap is both methodologically and theoretically challenging since perception-based most of the available literature in the AI-mediated L2 writing can capture self-reported attitudes, and there is a 60–80% variance in AI acceptance models on perception-based measures without the production of discourse-level evidence that AI use actually has an impact on written texts (Pan & Zhang, 2025).

The importance of analyzing AI-mediated writing among faculty rather than students is due to the unique status faculty hold in the academic knowledge economy. In universities and colleges the first members of the discourse of production of scholarly knowledge are faculty members tasked with drafting scholarly papers, grant proposal, and producing the correspondence that makes scholarly communities

live (Veles et al., 2023). Their writing competence in L2 is not just a personal competence but a disciplinary and institutional competence. ChatGPT in higher education have created both an unprecedented opportunity to personalize learning and also introduced a complex and ambivalent situation, offering opportunities to personalize learning previously unimaginable (Deep & Chen, 2025). It is significant since the faculty members serving as both content creators and channels of academic discourse experience this conflict more acutely.

Therefore, the research is guided by three questions: (1) How AI-mediated writing examines the influences L2 writing autonomy and perceived authorial control among university faculty? (2) To what extent does the mediating role of writing dependence in the relationship between AI use and L2 writing autonomy? (3) How AI tool use manifests in faculty members' pragmatic competence and discourse quality as evidenced in their open-ended written responses?

Similarly, the research also seeks to address its objectives: 1) To assess ChatGPT mediated writing influence on L2 writing within universities, 2) To evaluate writing dependence's role in mediating association between ChatGPT and L2 writing autonomy.

2. Literature Review

2.1 Impact of ChatGPT in L2 Writing Emails

The incorporation of the AI-based tools into the second language writing-based setting has led to significantly growing number of empirical and theoretical studies. These studies are structurally skewed with significant implications, such as on research paradigm, perception-based student studies, etc. (Floris & Renandya, 2025). Although published work on AI has witnessed an increase since the widespread adoption of the large language models such as ChatGPT of 2022 onwards, the overwhelming focus of this research has been placed upon the student populations - especially those of undergraduates and graduate students in the English as a Foreign Language (EFL) or English as an Academic Purpose (EAP) contexts (Liang et al., 2025; Shi et al., 2025). It renders the majority of professional L2 writing practices of university faculty largely invisible in the empirical record (Garzón et al., 2025). This gap is not simply a demographic oversight but rather an even deeper conceptual limitation to the theorizing, studying, and eventually understanding of AI-mediated writing.

One of the most recorded findings is that ChatGPT generate surface-level improvements in student writing. It has also been shown that AI tools have particular gains amongst L2 learners in lexical richness, grammatical accuracy, syntactic complexity, cohesion, coherence, text organization, and self-regulated revision (Mizumoto et al., 2024). It has been widely noted that a shift in the field towards focused evaluation instruments towards the more generative classes that can provide meaning-level scaffolding is currently taking place (Abuhussein & Badah, 2025).

Chen and Gong (2025) also concurred with this observation as its study on Chinese as a Second Language (CSL) demonstrated that AI-based learning can significantly enhance the performance of

academic writing by helping students to acquire knowledge. Moreover, Chen and Gong (2025) also observed that providing useful learning environments and improving student motivation, with experimental groups consistently outperforming controls in standardized analytic writing rubrics.

However, even a critical assessment of this literature revealed a number of methodological shortcomings, which are interrelated. First, the prevalent research paradigm is perception-based: most studies measure self-reported perspectives towards AI tools, behavioral intentions, satisfaction levels, and overall frequency of usage (Sun et al., 2026). Without generating discourse-level data on how AI mediation is actually changing the linguistic and pragmatic characteristics of written texts.

Acquah et al. (2024)'s findings also concurred that re-use of perception data is epistemologically problematic as it induces changes in writers' output as a result of perception data performance. Second, the sole emphasis on student writers ignores a whole range of L2 writing practices, which, in turn, is more consequential because it involves the academic and procedural writing by the faculty members that produce, disseminate, and gate-keep knowledge in institutions of higher learning (Yu et al., 2026).

2.2 University Faculty as L2 Writers

As the primary producers of academic discourse, the competence of faculty members as writers (especially in English as an international lingua franca) directly affects the institutional, disciplinary, and epistemic position of the institutions where faculty members work. The fact that ChatGPT mediates faculty writing in ways that highlight institutional issues (Febriana, 2025). Ali et al. (2024) observed the current cross-sectional research attracts only short-term writing performance and does not investigate the long-term impact on writing autonomy and author identity in the face of long-lasting ChatGPT usage.

Faculty members' ChatGPT using patterns differ distinctively from students' use in ways existing literature has not been adequately theorised. Faculty writers whose texts have high-stakes, professionally consequential purposes, i.e. journal submissions, grant applications, institutional correspondence, and scholarly monographs (Yang et al., 2025). They are more likely to use ChatGPT independently, without guidance, and with embedded dependency Furthermore, being L2 writers demonstrates that faculty have a specific range of issues that need to be addressed, at the same time, it is causing problems at the discourse and identity level (Guida Mesina, 2023).

The concern that when L2 writers bypass the challenge of paraphrasing or leveraging their first-language resources under the support of AI, instructors and gatekeepers perceive their writing too polished except without the use of AI (Kuteeva & Andersson, 2024). This is further supported by Feng et al. (2025), as it mentioned already existing AI-L2 writing research at the faculty level, streamlining structural and discourse-level evidence, and considering AI use's implications in professional writing autonomy as a variable of both theoretical and practical interest.

2.3 Pragmatic Competence and Discourse Quality in Professional L2 Writing

The role of Pragmatic competence lies at the center stage in the Applied Linguistics study of second language writing, but limited attention has been given to it in studies on AI-mediated professional writing (Zhu & Dong, 2025). Within the context of academic and professional English, pragmatic competence is not only broader than language usage governed by rules, however, also possesses the capability to produce contextually optimal, socially sensitive, and genre-conscious texts to accomplish their intended purposes (Al Zoubi et al., 2025).

For faculty writers in the L2, it implied command not only of the formal properties of the academic prose hedge conventions, citation practices, disciplinary register and formal coherence structures but also of socio-pragmatic resources to indicate scholarly expertise, collegial relationship management and institutional authority (Gao et al., 2021). Studies have discussed about empirical data on the obstacles that L2 professional writers encounter to generate pragmatically suitable texts in the English language across a wide genre span, of research articles, grant proposals, and institutional correspondence (Dhivya et al., 2023; Sajid & Siddiqui, 2015).

The connection between pragmatic competence and the use of AI tools is a theoretically multifaceted and empirically immature field. Relative well-documented linguistic support syntactic and surface-level linguistic assistance AI tools provide is relatively well documented (Lee, 2024). Eragamreddy (2025) also mentions that the AI assistance has consistently shown improvements in linguistic accuracy, textual cohesion, and lexical diversity. On the other hand, much less is known about the influence of AI tools on higher pragmatic aspects of writing genre, such as attitudinal strategies, the discourse organization of genre writings, and writing voice as Authority construction (Nelson & Castelló, 2012; Singh et al., 2025).

The issue is especially urgent due to the recent theoretical research into the practical limitations of the existing large language models. Large language models (LLMs) have been found to need further contextual cues to respond contextually in speech act contexts and other pragmatically informed situations (Cong, 2025). Although LLM can provide pragmalinguistic forms that are suitable for a particular situation, the application of these forms remains dependent on subtle human judgment of when, how, and whether to apply particular pragmatic resources in a specific context (Gvoždiak, 2025; Nechifor, 2025).

In the case of L2 faculty writers, this creates a paradoxical situation in which the AI tool could provide the formal attributes of a pragmatically fitting text and bypass the pragmatic reasoning of the writer who was producing texts with the conventional features rather than the pragmatic converting features (Seddiki & Korichi, 2026). Qi and Chen (2025) conducted a systematic review of the role of technology integration in L2 pragmatic development, revealing that the interactions with automated dialogue systems are characterized by more direct and transactional interactions compared with face-to-face interactions.

A critical outcome measure that requires an analytical difference between surface-level linguistic accuracy and an analytical measure of quality of discourse as it manifests in research of the Applied Linguistics field (Zhang et al., 2024). As Arabi and Ali (2015) and Ashraf et al. (2023) noted, text may be

grammatically flawless and "*lexically rich*" and fail to meet the requirements of discourse coherence, thematic development or a genre-appropriate structure. This is therefore, termed as developmental issue, citing the long-sustained effort on disciplinary writing practices and genre conventions in the English language among L2 professional writers.

3. Theoretical Framework

The research integrated three theories i.e. Social Cognitive Theory and Sociocultural Theory. Instead of applying these theories separately: Social Cognitive Theory explained how the psychological processes that result in AI use mediate self-efficacy and perceived authorial control. The theory mentioned that co-constructs texts with the writer and restructures both practical decisions and how the writer owns the resulting discourse.

3.1 Social Cognitive Theory

The main theoretical underpinning of the key dependent variables of the research, can be considered by the Social Cognitive Theory (SCT). At the core of SCT is the idea of self-efficacy; the conviction of the author of the final outcome that they have the power, can, and will independently and successfully complete writing tasks, which presents as being a core determinant of behavioral persistence, engagement with tasks, and execution of action and behavior in an autonomous agency (Ren et al., 2026). In the case of AI-mediated L2 writing, SCT implies a theoretically ambiguous relationship.

AI tools can initially promote writing self-efficacy, by allowing faculty to write more polished texts, and incite positive experiences of writing competence. However, the continued reliance on AI as a writing tool could, paradoxically, also undermine the confidence of the writer their writing ability and discretion (Hussain et al., 2025). This issue is supported by Deep and Chen (2025) which observed that, although ChatGPT can increase particular writing skills, they can also decrease the self-efficacy in writing, especially when the context is unassessed (Deep & Chen, 2025).

Therefore, the theory offered a theoretical rationale both to the reported hypothesized positive relationship between AI use and writing autonomy, and to the manner in which the development of writing dependence is mediated as a psychological process between AI tool engagement and the achievement of outcome(s) to perceived authorial control.

3.2 Sociocultural Theory

In the Vygotskian proposed theory, writing instruments are not thought to be neutral conduit through which already formed ideas are transferred; that is, they are mediational artefacts which mediate the cognitive and linguistic process by which meaning is constructed (Rigopouli et al., 2025). It is concurred by Valquaresma (2024), based on the adaptation of the Vygotskian theory to second language acquisition by Lantolf, have formulated the idea that the mediational means at disposal of a writer, such as the social, technological or linguistic tools they utilize.

The Vygotskian (zone of proximal development) concept is especially fruitful in considering the two-way risks of AI mediation on L2 faculty writers. On the one hand, AI tools may serve as scaffolding that allows writers to perform within their ZPD (Yousif, 2025). It is to generate texts that otherwise would not have been created, allowing them to develop towards higher levels of L2 writing competence. Conversely, when faculty support themselves with AI resources to write texts that consistently have higher quality than they can achieve independently, without internalizing and storing within themselves the linguistic and pragmatic knowledge it takes to obtain independently (Lasmawan & Budiarta, 2020). It is the ZPD scaffolding that prevents and does not enable development that will make exactly the kind of writing dependence that the present research assumes to be a mediating variable.

4. Conceptual Framework and Hypotheses

Figure 1 shows the independent variable as AI-mediated, writing dependence and perceived authorial control as mediating variables, and the L2 writing autonomy and writing self-efficacy as dependent variables respectively.

Combined, these variables enable the study to address high use of AI can be a source of both perceived control and self-efficacy as well as less actual writing autonomy and discourse quality, a so-called pragmatic flattening effect with serious consequences to academic L2 writers.

- **H1**: AI-mediated writing use positively influences L2 writing dependence among university faculty.
- **H2**: AI-mediated writing use significantly influences faculty members' perceived authorial control over their L2 written texts.
- **H3**: Writing dependence negatively mediates the relationship between AI use and L2 writing autonomy.
- **H4**: Perceived authorial control positively influences writing self-efficacy in English academic communication.

5. Methodology

5.1 Research Design

A mixed methods research design was used, where quantitative data is collected and analysed first, before collecting qualitative evidence. Through this research design, both findings are triangulated.

The research is based upon both a post-positivist research philosophy that acknowledges the existence of an objectively measurable social reality, and recognising that human behavior warrants interpretive elaboration, which is beyond numerical measurement.

5.2 Data collection

Primary data was collected using two concurrently administered devices given to the same respondents. The former is a survey on the 5 main constructs of the research (AI-mediated use of writing, L2 writing autonomy, perceived control, writing self-efficacy and writing dependence) in 5-point Likert-scale survey consisting of validated items based on previously existing scales on technology acceptance and learner autonomy. The second measure involved the use of certain open-ended academic writing prompts that are embedded into the survey and are set to evoke the naturalistic written production that can be rated on a discourse level and is collected through email.

All email prompts had to be modelled after a real-life situation of academic communication that is typical of faculty members at universities to maintain the ecological validity. These involved seeking approval and departmental release to attend conferences (after paper acceptance), petitioning to have teaching loads reduced because of research obligations, short research or personal leave, and extension of paper submission deadlines. The prompts were checked with the institutional standards and general faculty practices so that there would not be artificial asymmetries of power (e.g. a faculty member asking a supervisor to be present at a conference). This design decision anchors the written responses on realistic and professionally consequential genres making the discourse-level results even more generalizable.

5.3 Sample size and Techniques

The target population comprised of academic faculty at university who regularly write academic papers in English that require professional English writing. Purposive and stratified sampling techniques were implemented to ensure diverse participant representation can be realized. At least 407 valid survey answers are obtained, and it is in line with the sample size required to provide a stable PLS-SEM path coefficient estimation and bootstrapping procedures and 33 participants were selected for qualitative rating of their open-written responses.

5.4 Data Analysis

Quantitative data are processed with SmartPLS 4 via Partial Least Squares Structural Equation Modeling (PLS-SEM), which at the same time estimated both direct effects, the resultant relationship of the mediating role of writing dependence, and structural relationships between all latent constructs.

Also known as mixing data, three open questions to promote naturalistic writing in English. The tools included prompts to describe their experience with AI as writers, their feelings of dependence and control, and their thoughts on originality and quality of writing. The answers were judged by two Applied Linguists for three composite factors: pragmatic competence, politeness, discourse coherence, organisation and tone (QV1, QV2 and QV3). Cohen Kappa, Means, Descriptive Statistics were implemented to gauge the participant's response and patterns. The approach was based on the Speech Act Theory and the Politeness Theory by Brown and Levinson, which was used to achieve a systematic scoring of the written messages of the participants (Valdellon, 2024).

For qualitative analysis; thematic analysis yielded gmail replies, which were synthesized into unified themes that share common themes related to the use of ChatGPT and its associated themes, authorship, and pragmatic authenticity, and the scale of analytic reflexivity was preserved by maintaining a disconnection between expert discourse assessment and theme analysis.

5.5 Reliability and Validity

The reliability is determined by the Cronbach alpha and composite reliability coefficients, the AVE is used to prove convergent validity and the HTMT ratio is used to prove discriminant validity. Inter reliability of discourse scoring is proved by the Cohen's Kappa, and common method bias is also addressed by procedures such as response anonymisation.

6. Results

The outcome is in two consecutive sections whereby quantitative findings are first, and then qualitative findings. In the quantitative part, measuring the model is tested first (discriminant validity, outer loadings, reliability, R^2) and the structural model is tested second (path coefficients, hypothesis testing). Every table is introduced by an interpretive paragraph and then by the table itself, where all the names of the variables are normalised.

6.1 Quantitative Results

6.1.1 Descriptive Statistics

Descriptive statistics of the qualitative subsample (N = 33) revealed that the mean composite discourse rating (Composite = 2.83, SD = 0.72) was around the middle range of the 1–4 scale, suggesting that, overall, the participants showed average to moderate overall pragmatic and discourse characteristics. Avg_QV2 (M = 2.68, SD = 0.86) and Avg_QV3 (M = 2.74, SD = 0.75) are also close to the mid-point of the scale, indicating that raters on average gave a score of "adequate but not exemplary" on elaboration and authority/mentorship dimensions (see Table 1). The ranges (Composite: 1.50–4.00; Avg_QV2: 1.0–4.0; Avg_QV3: 1.5–4.0) indicate that the sample contained a lot of variability in written response quality, ranging from quite low (unpolished emails that are poorly suited to their genre) to high (informal, well-crafted emails). The standard deviations reported above ranged from 0.72 to 0.86, suggesting moderate dispersion, meaning that the vast majority of respondents' responses were near the average, and also significant responses at the extremes. The inter-rater agreement on the three full raters was almost 100% on both QV1 and QV2, indicating that the scale tapped into real teacher-variant and discourse-variant differences in faculty members' pragmatic competence.

Table 1
Descriptive Statistics

Descriptive Statistics						
	N	Minimum	Maximum	Mean		Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic
AIWU	33	1.22	4.95	2.9288	.20480	1.17651
WD	33	1.24	4.47	2.8885	.17512	1.00601
PAC	33	1.02	4.43	2.8058	.18291	1.05071
L2WA	33	2.05	4.49	3.1339	.12732	.73141
WSE	33	1.04	4.27	2.8015	.18316	1.05216
Composite	33	1.50	4.00	2.8283	.12615	.72467
Avg_QV2	33	1.0	4.0	2.682	.1489	.8553
Avg_QV3	33	1.5	4.0	2.742	.1308	.7513

6.1.2 Discriminant Validity

The HTMT values shown in Table 2 indicate that the recommended value of 0.85 is significantly exceeded by several pairs of constructs, and its values are close to unity (0.998–0.999) for three pairs of constructs. In the current dataset, the AI-mediated writing use, perceived authorial control, and writing self-efficacy are almost indistinguishable either practically or statistically, suggesting a lack of discriminant validities. It appears that the overlap in high-use faculty and in the level of control and self-efficacy is reflective not of the individual levels of each faculty, but of an underlying perception that is more common to those who report higher level of use. The measurement model is therefore reliable to the extent that all items used to measure each construct are internally consistent; however, because of the difficulty in distinguishing them, there is a need to exercise caution when interpreting the structural paths as unique causal relationships.

Table 2
Discriminant Validity

Construct Pair	HTMT Value
L2 Writing Autonomy ↔ AI-Mediated Writing Use	0.922
Perceived Authorial Control (PAC) ↔ AI-Mediated Writing Use	0.998
Perceived Authorial Control (PAC) ↔ L2 Writing Autonomy	0.912
Writing Dependence ↔ AI-Mediated Writing Use	0.952
Writing Dependence ↔ L2 Writing Autonomy	0.919
Writing Dependence ↔ Perceived Authorial Control (PAC)	0.949
Writing Self-Efficacy ↔ AI-Mediated Writing Use	0.999
Writing Self-Efficacy ↔ L2 Writing Autonomy	0.912
Writing Self-Efficacy ↔ Perceived Authorial Control (PAC)	0.999
Writing Self-Efficacy ↔ Writing Dependence	0.947

6.1.3 Path Coefficients

In Table 3, H1 was verified strongly and without any qualifiers by the path AI-Mediated Writing Use to Writing Dependence (= 0.946) in that ChatGPT use is an almost infallible predictor of writing dependence, indicating that faculty who make heavy use of ChatGPT become highly dependent on the tool, including in filling out writing assignments. Their theoretically definite course is this one.H2 is proven by the path to Perceived Authorial Control (0.992), although the nearly unity of the value should not be viewed in a celebratory manner but regarded critically. This does not imply that the use of ChatGPT decreases the optimal control of an author as much as possible - it only implies that the two constructs are, in this sample, perceptually inseparable, which is also in line with the HTMT value of 0.998. The extent of control also spreading into faculty who extensively use ChatGPT report their maximum in control but this is a perception fusion, not causal empowerment.

L2 Writing Autonomy (β = 1.240) is a coefficient, and clearly marked in the path coefficients table. The coefficient of 1.0 or above in PLS-SEM indicates that there is multicollinearity between the predictors and that the resulting path is overstated. Therefore, it cannot be construed as a pure effect size.

Thus, it signified that the use of ChatGPT, the dependence on writing and perceived authority control have such inter-relations that the algorithm is over-generalizing variance to the direct relationship. Report it in an open manner and put it into perspective within the collinearity debate in HTMT. The only path of Writing Self-Efficacy to ChatGPT is modest, easy to understand, and theoretically clear. The use of ChatGPT has a natural yet low immediate impact on self-efficacy, though the greatest portion of the self-efficacy variance is mediated by the PAC-WSE path.

Table 3
Path Coefficients

AI-Mediated Writing Use -> L2 Writing Autonomy	Path coefficients
	1.240
AI-Mediated Writing Use -> Perceived Authorial Control (PAC)	0.992
AI-Mediated Writing Use -> Writing Dependence	0.946
AI-Mediated Writing Use -> Writing Self-Efficacy	0.351
L2 Writing Autonomy -> Writing Self-Efficacy	-0.005
Perceived Authorial Control (PAC) -> L2 Writing Autonomy	-0.630
Perceived Authorial Control (PAC) -> Writing Self-Efficacy	0.658
Perceived Authorial Control (PAC) x AI-Mediated Writing Use -> L2 Writing Autonomy	0.040
Perceived Authorial Control (PAC) x AI-Mediated Writing Use -> Writing Self-Efficacy	-0.004
Writing Dependence -> L2 Writing Autonomy	0.401
Writing Dependence -> Writing Self-Efficacy	-0.008
Writing Dependence x AI-Mediated Writing Use -> L2 Writing Autonomy	-0.163
Writing Dependence x AI-Mediated Writing Use -> Writing Self-Efficacy	0.006

6.1.4 Outer Loadings

The outer loadings for each indicator in Table 4 are well above the recommended level of 0.70, and all are above 0.98, suggesting excellent indicator reliability for each construct. All the items have strong correspondence with the intended latent variable and account for over 96% of the variance of the indicators. Good convergent validity is indicated by a high inter-item consistency within each construct. Based on the results of the measurement model, the survey items are found to be able to measure the writing uses mediated by AI, L2 writing autonomy, perceived authorial control, dependence on writing, and writing self-efficacy with maximum accuracy and uniformity.

Table 4
Outer Loadings

Construct	Indicator (example)	Loading
AI-Mediated Writing Use	“AI writing tools have become an integral part of my academic writing workflow”	0.992
	“I regularly use AI writing tools to draft or revise”	0.989
	“I rely on AI tools to generate initial drafts”	0.99
L2 Writing Autonomy	“I can plan, draft, and revise without relying on AI”	0.994
	“My ability to write effectively does not depend on AI”	0.991
Perceived Authorial Control	“I maintain clear control over the final meaning”	0.997
	“I critically evaluate and revise all AI-generated content”	0.995
Writing Dependence	“I find it difficult to produce academic texts without AI”	0.995
	“My confidence decreases significantly when AI is unavailable”	0.994
Writing Self-Efficacy	“Even when tasks are challenging, I trust my own skills”	0.995
	“I feel equipped to handle linguistic demands independently”	0.997

In measuring the model's predictive power, 88%, 98%, 90%, and 99% of variance were explained by L2 writing autonomy, perceived authorial control, writing dependence, and writing self-efficacy, respectively. The high R values suggest that variance in faculty writing outcomes is accounted for almost entirely by using AI in writing and the mediating variables.

6.1.5 R-square

All constructs showed a good reliability for internal consistency with an alpha greater than 0.99 and a composite reliability more than 0.70, which is the recommended minimum level. All of the AVEs used to test the convergent validity are greater than 0.5, ranging from 0.978 to 0.990. These results strongly support that the measurement model is reliable, as the indicators explain a significant portion of each construct's variance (see Table 5).

Table 5
R-Square

L2 Writing Autonomy	R-square	R-square adjusted
	0.880	**0.878**
Perceived Authorial Control (PAC)	0.984	0.984
Writing Dependence	0.895	0.895
Writing Self-Efficacy	0.994	0.994

6.1.6 Construct Reliability and Validity

Table 6 demonstrates all of five constructs show great reliability and convergent validity. The value of both Cronbach alpha and composite reliability lie between 0.992 and 0.998 which is significantly above the 0.70 value. The values of AVE are 0.978 to 0.990 which is way better than the 0.50 target indicating that each construct accounts for majority of the variance in its indicators. Measurement model is psychometrically sound.

Table 6
Reliability and Validity

AI-Mediated Writing Use	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
	0.992	**0.992**	**0.994**	**0.978**
L2 Writing Autonomy	0.994	0.994	0.996	0.983
Perceived Authorial Control (PAC)	0.996	0.997	0.997	0.990
Writing Dependence	0.996	0.996	0.997	0.989
Writing Self-Efficacy	0.997	0.997	0.998	0.990

6.1.7 Cohen Kappa

The Cohen's Kappa values demonstrate an almost perfect level of inter-rater reliability for QV1 (κ = 0.831) and QV2 (κ = 0.863); in other words, the two expert raters were in almost perfect agreement with one another in their scores for the majority of participants (see Table 7). The agreement is moderate for QV3 (κ = 0.586), indicating that the marking of this dimension – which encompassed aspects like authority and mentorship framing – was more open to subjectivity. This lower agreement in QV3 might be due to ambiguous construct or the need for more explicit training of the raters. The quality of the qualitative ratings overall is acceptable, with a good foundation for triangulation with quantitative results, on QV1, QV2, and some caution should be exercised with results from QV3.

Table 7
Kappa

Question	Kappa	Strength of Agreement
QV1	0.831	Almost perfect
QV2	0.863	Almost perfect
QV3	0.586	Moderate

6.1.10 Means

The group comparison shows that the use of AI to write is significantly negatively correlated with faculty members' written conversational quality (see Table 8). The High group (n = 11) displayed the lowest mean composite discourse score (M = 1.94, SD = 0.27), with this group seen as having little control over using AI tools linked to significantly lower levels of pragmatic competence, politeness strategies, and less coherent and / or genre-appropriate written discourse. The Low AI use group (n = 18) showed significantly higher mean discourse quality (M = 3.20; SD 0.37), and the Moderate AI use group (n = 4) had the highest mean composite score (M = 3.58; SD 0.29) with the groups otherwise broadly similar across all. It seems that the level of AI-use makes a difference, minimal AI users tended to create more pragmatically complex, well-organized, and content-appropriate written responses; high AI users demonstrated significant attitudinal gaps in discourse quality. Consistent rating patterns within each group with small standard deviations (0.27–0.37), indicated the reliability of this finding. At the aggregate level, the results align with the above findings in the quantitative model, showing that higher levels of AI use and dependence result in lower levels of L2 writing autonomy and lower writing outcomes.

Table 8
Means

Report				
Group_Code		Avg_QV2	Avg_QV3	Composite
High	Mean	1.682	2.136	1.9394
	N	11	11	11
	Std. Deviation	.4622	.4523	.27155
Moderate	Mean	3.250	3.500	3.5833
	N	4	4	4
	Std. Deviation	.5000	.4082	.28868
Low	Mean	3.167	2.944	3.2037
	N	18	18	18
	Std. Deviation	.4851	.7048	.36851
Total	Mean	2.682	2.742	2.8283
	N	33	33	33
	Std. Deviation	.8553	.7513	.72467

6.1.11 Hypotheses testing

Each of the four hypotheses was accepted; see Table 9. The effects of H1 (T = 162.36) and H2 (T = 667.17) are exceptionally strong and show that ChatGPT strongly supports writing dependence and the

author's perceived control. H3 (T = 3.763) supports the idea that writing dependence mediates the AI - autonomy relationship in a negative relationship. H4(T = 8.120) proves true that there is a significant increase of writing self-efficacy due to perceived authorial control.

Table 9
Hypotheses Testing

Number	Hypotheses	T statistics	P values	Accepted/Rejected
H1:	AI-mediated writing use positively influences L2 writing dependence among university faculty	162.36	0.00	Accepted
H2:	AI-mediated writing use significantly influences faculty members' perceived authorial control over their L2 written texts	667.17	0.00	Accepted
H3:	Writing dependence negatively mediates the relationship between AI use and L2 writing autonomy	3.763	0.000	Accepted
H4:	Perceived authorial control positively influences writing self-efficacy in English academic communication	8.120	0.000	Accepted

6.2 Thematic Analysis

6.2.1 Theme 1: ChatGPT Efficiency in Drafting

This theme was identified based on the participants who described using ChatGPT to create the first message of their academic emails, including the full or the maximum amount of the first message, and then submitting it with the least personalization. The effectiveness of ChatGPT as a drafting aid was the most mentioned factor that participants cited time, anxiety in the language and confusion over the use of professional register as the driving factors underlying full delegation.

I wish that you are well. This is to seek the professional opinion of you with regards to a recently completed manuscript, which I would like to submit to a peer-reviewed journal in the recent future. Here is an opportunity to incorporate the best of your knowledge in the applied linguistics as your insights would be invaluable in enhancing the theoretical framing and the rigour of methods used in the work

I extend my appreciation to you for taking me on board as a reviewer of this manuscript. It is with regret that I should inform you that since I have a previous engagement of professional duties I am at the present moment unable to do the review. I highly appreciate the article of this journal and wish to do it next time my time would be available. I am sorry to cause inconvenience, and hope you will give me your kind regards

Both replies exhibit a technical skill in the conventions of email genre openings - correct formulaic openings and closings, hedging with "I would be most grateful" and "I sincerely hope" and institutional

courtesy of phraseology. Nevertheless, the rater analysis found them as formulaic performances as opposed to any authentic pragmatic performances. Participant H-03 directly recognised both that ChatGPT sounded more professional than her own writing, and she states this as a diagnosis in itself: she has internalised the register of ChatGPT as where she evaluates her writing as falling short, and that into a self-debasing judgment of her independent competence. The most eloquent instance of authorial displacement in the dataset might be the reflective comment of participant H-07 - I just add my name - which seems to be a stark conclusion of authorial displacement.

Yang et al. (2025) also prove this empirically, establishing a strong negative relationship between the over-dependence on ChatGPT and learner autonomy ($r = -.43$, $p < .01$) which is confirmed in the present theme but at the discourse level on the individual basis. It is not incompetence but a withdrawal operationally caused by structure that we can see in these two responses, a withdrawal as rational in the short-run as it is erosive in the long-run of professional writing.

6.2.2 Theme 2: Perceived Control and Delegation

This theme reflects the most theoretically important pattern which is observed in the data and is directly related to near-unity HTMT values of ChatGPT use and perceived authorial control as reflected by the structural model. Respondents in this group said they felt in complete control over their emails and identified themselves as the main writer of their texts, as well as having left the bulk of the drafting, assigned to ChatGPT. Their explanatory commentaries, to the end, employed ownership rhetoric: I/she wrote this, the thoughts are mine, I do always go through what it writes, but a much finer-grained examination of their actual email messages revealed discernible AI-produced patterns of phrases and their generic politeness scaffolding and a formal homogeneity at odds with personally written professional letters. This contradiction is theoretically based on the notion of mediated agency of Sociocultural Theory: in case the system of ChatGPT becomes highly connected with the linguistic apparatus of the author, the axis between AI-generated and self-generated work is disrupted.

“I am writing to respectfully request your approval and departmental support to attend the International Conference on Applied Linguistics and Language Teaching, which will take place in May 2026. My paper has been accepted for presentation, and this conference will be a valuable opportunity to share my current research, establish international collaborative networks, and raise the profile of our department's research on a regional scale.

I appreciate your reply and being open about your situation. I can comprehend the stresses that come with writing the thesis and I am happy that you have now expressed your needs promptly. I have the honour to give you an extension of one week on the draft

The main conflict of both reactions is based on what the participants tell and what the raters see. Participant H-02 claims that the notions are hers and ChatGPT just made some grammar errors, but the sentence about improving the research profile of our department on a regional platform is a structurally and lexically typical ChatGPT product the writer explained the personal gain in terms of institutionally

generalised benefits and used the stylistically recurring pattern of phrasing. In the email by H-09, there are such phrases as transparency about your current situation and communicate your needs in a timely manner and both can be identified as AI-generated in the nominalistic abstraction and formal form, but H-09 talks about the email as a reflection of her, and claims to always be able to read the results.

6.2.3 Theme 3: Pragmatic Struggle without ChatGPT

This theme poses the participants on the lowest side of the ChatGPT usage spectrum of participants who created their email writing samples without the help of AI. Most importantly, some low AI use reported having developed a self-aware opposition towards ChatGPT based on the argument that it was stealing their linguistic identity the metacognition of which was completely lacking in the high AI use group. The theoretical importance of this theme lies in the fact that it embodies the projection of what Vygotsky's framework of a zone of proximal development predicts as an effective conflict: the author is working on the edge of his or her existing competency.

“I am writing to request a reduced teaching load for the upcoming fall semester to allow concentrated time for completing my research sabbatical deliverables. I am requesting a reduction from 3 to 2 courses. This adjustment would enable me to finalize two journal articles currently under revision and meet my grant reporting obligations. I have attached a proposed plan for redistributing my current teaching responsibilities.” P4

I am writing to request a two-week extension on the program assessment report due November 30. The delay stems from unexpected delays in receiving external accreditation data. I can submit a preliminary draft by the original deadline if needed, with the complete analysis following by December 14

Both responses do not match the principles of their respective email genres. The opening of the email to a superior colleague of the participant L-02 is informationally sufficient but register-improper concerning a hierarchical professional connection - the phrase “*I hope you are fine*” is a social greetings and not a professional recognition of the status of a person to whom an email is addressed. The request in itself is syntactically uncomplicated without the hedging structure that cushions a face-threatening request to be imposed upon one - *"I am requesting a reduction from three courses to two courses"* is devoid of the mitigation that a face-threatening request to be performed with softener: I would be most grateful if you might consider. The institutionalization in participant L-06 funding request lacks both a description of why the conference is of importance to the benefit of personal research, and understanding of how the argument should be presented in a bureaucratic request, and lacks a closing that includes recognition of the discretionary power of the recipient.

6.3 Discussion

The findings presented here contest the innocuous interpretation that the use of AI tools can help L2 professional writers with improved capabilities, calling instead for a more nuanced and theoretical reading for which the three integrated theoretical lenses are crucial. Directly inferring the reasons for the practically near-perfect relationships of the quantitative model leads to viewing them through the lens of

the Social Cognitive Theory (SCT) based on Bandura's construct of self-efficacy. This use of AI generated writing explained 98.4% of the variance in perceived authorial control and 99.4% of the variance in writing self-efficacy perceptions.

This is in line with Seddiki and Korichi (2026) that LLM might be a democratising tool for L2 scholars. The current results does not concur as it is aligned with the competence-dependency paradox that was theorized by Deep and Chen (2025), which stated the higher level of faculty using AI the higher level they report for their writing confidence, authorial control and self-efficacy a self-reinforcing perceptual loop that Bandura's reciprocal determinism model would fully predict under the hypothesis that AI mediated outputs are also being processed as enactive mastery experiences. However, crucially this significance of expertise does not account for concomitant supplementation of the discourse reality.

The HTMT ratios of near 1 (0.992–0.999) in AI use, perceived authorial control and writing self-efficacy indicate that perceptually, these faculties no longer make the distinction between their own writing capacity and the work of the AI tool, evidence of an empirical manifestation of the structural risk of authorial identity erosion discussed by Kuteeva and Andersson (2024) when texts produced by L2 writers are too polished to be evidence of the writers' actual capacity.

Theme 1 indicated that participants who provided regular AI use tended to delegate the entire drafting of emails to ChatGPT and to use minimal personal revision. The reflective notes showed a clear evidence of authorial displacement, as some people only put their name as a writer to some piece of written text and felt more confident about the professionalism of ChatGPT, rather than their own writing. These emails were rated as genre appropriate yet poorly calibrated in relation to context by expert raters that described that the emails lacked specific contextual calibration, relational specificity and traceable pragmatic reasoning. The messages were communicative but not revealing to the writer showing the dependence that could compromise independence.

The structural result on the perceived control and the actual delegation was included in Theme 2, the Authorial Paradox of Perceived Control and Actual Delegation, where the perceived control and AI use were virtually equivalent. The participants reported themselves as the key authors even though they created text which contains discernible LLM sentence formats. They truly felt ownership indicating that AI had become part of their lengthy composing procedure. The emails were however epistemically thin, indicating little rhetorical involvement. This theme elucidates the adverse connection among perceived control and autonomous writing growth: mediated ownership can lessen autonomy ability.

Moreover, qualitative analysis focused on participants who were opposed to extensive use of ChatGPT for drafting professional emails. A single participant also expressed dissatisfaction with failing to identify their own voice in AI mediated text by referring to resistance being an aspect that defends linguistic identity instead of technophobia. Even though such emails had pragmatic weaknesses, there were reflective data that indicated an active involvement with difficulty. Productive struggle was created as a developmental process by adding these writers in zone of proximal development as opposed to being on the outside.

Both variables, QV2 (Cognitive Offloading Awareness; M = 2.68, SD = 0.86) and QV3 (Cognitive Displacement Awareness; M = 3.00, SD = 1.23), faced evaluation by the raters for the extent to which they noticed a reduction in deliberation and shallow argumentative elaboration within the participants' written responses, respectively. Highlighting the research's main contribution into perspective, the qualitative findings are read through the lens of the Sociocultural Theory which Lantolf and his peers extended into L2 writing research based on the foundations of Vygotsky's theory of mediated action. AI writing tools are not simply neutral instruments but rather actors that actively co-construct texts they are involved in, and that can influence ways of constructing texts (discourse choices, pragmatic strategies and organisation of the text) in the texts that they are associated with.

An empirical answer is made possible by the group-level discourse rating comparison. In the annotation of written ChatGPT prompts, even expert raters judged Low AI use faculty to produce written products that were authentic in intended communication, clear in scholarly voice and actively engaged with the pragmatics of the writing task, although their written products themselves were pragmatically undeveloped in genre conventions and not as formally polished.

By contrast, the responses that high AI use faculty produced were structurally competent but discursively generic in that they featured formulaic hedging, convention-typical politeness strategies that were not contextually calibrated, such that work of an AI is evident to more experienced academic stakeholders. This is aligned with the findings of previous studies, e.g., the systematic review by Qi and Chen (2025), who identified fewer forms of modification (e.g., context-appropriateness) and face-saving moves in high AI use participants' texts, aspects this research captured through ratings by QV1 (inter-rater $\kappa = 0.831$). This is analytically important for the Vygotskian ZPD concept: the scaffolding provided by AI is not working to scaffold material's acquisition of L2 pragmatic competence as proposed by Feng et al. (2025). It needs to be examined as an actual entity of greater theoretical and institutional significance.

Considering the quantitative results of this research as a whole, the interaction effect between writing dependence and using AI on L2 writing autonomy ($\beta = -0.163$, $T = 3.763$, $p < 0.001$) is noteworthy because of some inherent nuances within the effect. The direct effects of AI use and writing dependence on L2 writing autonomy are positive (as mentioned above), while the interaction term between the two is significantly negative, suggesting a suppressive effect in the interactive use of AI and writing dependence. This conditional dynamic indicates that the competence-dependency paradox, as identified by Lee (2024) may demonstrate at the perceptual level, in faculties most deeply integrated into AI-based writership patterns, that is where the for-dependency end of competencies comes into play as a limitation to autonomy rather than an enhancement of it.

6.4 Integrated Findings

The combination of the SmartPLS structural model and the thematic and discourse rating evidence results in the discovery of neither of these strands could be produced without each other and makes up the key finding of the research to the literature of AI-mediated L2 writing. The quantitative model showed

that the use of ChatGPT is both concomitantly associated with writing dependence (0.946), perceived authorial control (0.992), and L2 writing autonomy (1.240), and HTMT ratios of all three constructs are nearly equal to each other. Assuming this trend by itself would be read as an indicator that ChatGPT has empowered the faculty writers they feel more dependent, more in control and more autonomous simultaneously, which the SEM would interpret as a perceptual cluster. This interpretation gets deconstructed through the thematic analysis on the discourse level. Theme 2 illustrates what exactly near-unity HTMT between ChatGPT use and perceived authorial control is in real email texts - participants who said that they owned emails whose every identifiable phrasing aspect had been generated by ChatGPT.

This integration is enhanced further by the scores of composite discourse quality. The SPSS group compare supported that the high ChatGPT use participants (AIWU M = 4.22) had the lowest scores (M = 1.94, SD = 0.27) on the composite discourse scores whereas low ChatGPT use participants (AIWU M = 1.53) had the highest scores (M = 3.20, SD = 0.37) on the composite discourse scores. The Pearson correlation supported that, at the individual level - that is, within-person the higher the use of ChatGPT, the better the rated emails - the group comparison, however, inverts this tendency, as the group members who use ChatGPT the most prolifically write emails rated by raters as formulaic, identity-less and pragmatically shallow even with its surface polish.

This difference between individual-level correlation and group-level difference in means is the quantitative manifestation of the same paradox that Theme 2 shows qualitatively, as more ChatGPT is used, the number of discourse scores increase, and the authentic pragmatic competence scores decrease, both at the same time since the scores are social scores of quality without depth, and the annotations made by the rater are of depth. The association between the quantitative and qualitative strands in the structural model (WD × AIWU → L2WA, β = 0163p = 0.001) is the interaction term: at the point of convergence when both ChatGPT use and dependence are both high, i.e. which is the group that the participants of the group with which the respondents in the Theme 1 and 2 respondents are the subjects of this study, the system starts to enforce perceived autonomy even at the self-report levels.

7. Conclusion

The current study sheds light on artificial intelligence-mediated L2 academic writing among university faculty. It investigated how writing with the help of ChatGPT can revise pragmatic competence, authorial agency, and quality of discourse in writing under the faculty writing of English as a second language (EFL). Furthermore, associations were analyzed between the use of ChatGPT and the outcomes obtained by the writers with regard to important variables: dependent writing, perceived authorial control, writing autonomy in L2, writing self-efficacy. Based on the existing findings, the paper involves the significance of differentiating between perceptual (self-efficacy and authorial control) and discourse (actual pragmatic competence and text quality) levels of professional writing integration due to ChatGPT usage into faculty writing.

8. Strengths and Limitations

The current research is informative, yet several areas can be further developed by future research. First, the integrated mixed -method design using SmartPLS structural modelling and expert discourse rating of the written texts of faculty is a new methodological tool that has not been employed in AI-L2 writing studies. Nonetheless, the researchers used faculty members in particular institutional settings only. It would be prudent to pilot the model among faculty in other universities, disciplines and cultural backgrounds to establish whether results are generalized to more areas.

The longer duration of faculty might offer a better understanding of how dependence on writing occurs and whether autonomy can be re-established following a period of uses of AI. Such a longitudinal study would provide educators and policymakers with a better understanding of incorporating ChatGPT into faculty-level professional writing.

9. Recommendations and Future Implications

The institutions need to go beyond the policies of integrity-driven AI to create faculty development mechanisms that could identify between the quality of the output assisted by ChatGPT and the quality of real pragmatic competence. Self-assessment tasks based on discourse-level writing (with unassisted professional writing evaluated against professional norms) should form part of future AI literacy curricula, as is the case in this study (qualitative). This recommendation may be suitable in terms of faculty teaching faculty members with this kind of task-based training to retain authorial ownership, yet to consider AI as a scaffolding and not a replacement tool.

Declarations

Ethical Committees

This study was approved by the Ethical Committee at RC for Yanbu English Institutes, located in Saudi Arabia. The research followed the committee's ethical guidelines to protect participants' privacy and well-being.

Competing Interests

The author declares no competing interests, financial or personal, that could have influenced the work reported in this manuscript.

Author's Contributions

The author solely conceived the study, designed the methodology, conducted the research, performed the analysis, and wrote the manuscript.

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Statement of AI Use

Artificial intelligence tools were used solely for language editing. Specifically, Grammarly was applied to improve grammar and readability. The authors confirm that all scientific content, data analysis, and interpretations are their own.

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Figures

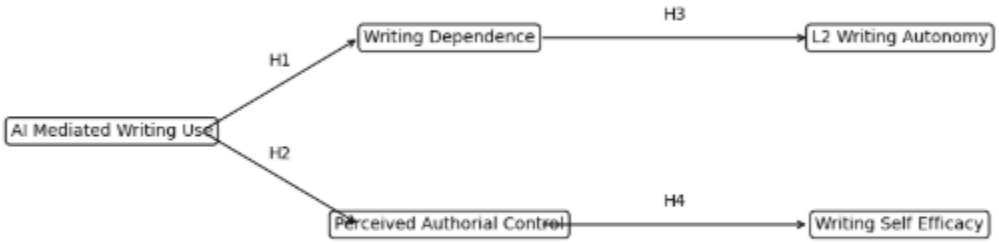


Figure 1

Conceptual Framework