

From Voice to Emulation: Tracing the Scholarly Persona across Human and Algorithmic Academic Writing

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Abstract

The expansion of AI text generation in academic environments raises essential questions about how scholarly persona is constructed when writing is not produced by a human knower. This study applies a three-dimensional model—dialogic positioning, evaluative practice, and identity projection—to compare persona construction in first-year and fourth-year L2 academic writing and in AI-generated texts. A parallel corpus of 150 paragraphs responding to the same prompt was analyzed through normalized frequency profiling supported by contextual interpretation. First-year writing enacts dialogicity through direct reader engagement, uses affect-driven evaluation to assert value, and projects identity through dense autobiographical presence. Fourth-year writing regulates dialogicity via stance modulation and metadiscourse, employs purpose-linked appreciation and cautious judgment, and asserts a confident academic self responsible for claims. AI-generated texts display structural dialogicity through patterned hedging and connectives, apply neutralized and interchangeable evaluation without criteria, and erase identity by removing accountable selfhood. These contrasts motivate the Voice–Emulation Continuum, a theoretical contribution distinguishing socially situated scholarly voice from algorithmic emulation lacking epistemic agency. Pedagogically, AI output is positioned as a diagnostic contrast that helps writers recognize and reinforce the stance ownership, evaluative justification, and identity accountability constitutive of human academic writing.

Keywords: dialogic positioning, evaluative stance, identity projection, human authorship, algorithmic writing

1. Introduction

The construction of a scholarly persona—conceived as the discursive orchestration of authority through calibrated judgment, dialogic interaction, and strategic self-positioning—constitutes a central concern in academic writing because it mediates how writers negotiate identity, credibility, and epistemic authority. Through rhetorical choices, writers simultaneously align with disciplinary norms and assert individuated agency, engaging in what Swales (1990, 2004) characterizes as the genre-based negotiation of membership within discourse communities. From a socio-rhetorical perspective, the scholarly persona marks the intersection of disciplinary ideology and authorial agency, shaping how knowledge is produced, legitimated, and circulated (Bazerman, 1988; Becher & Trowler, 2001; Bhatia, 2004). It is not a stylistic embellishment but the mechanism through which claims acquire authority, values are enacted, and writer–reader relationships are sustained (Hyland, 2005a, 2005b). In applied linguistics and discourse studies, this negotiation is especially salient for novice writers who must reconcile conformity to disciplinary expectations with the projection of authorial presence (Ivanič, 1998; Lillis, 2001; Tang & John, 1999). Accordingly, scholarly persona functions as an index of rhetorical competence and a marker of academic socialization, revealing the extent to which writers have been enculturated into the epistemic and evaluative practices of their communities (Bruce, 2008; Hyland, 2002a).

Building on this foundational view of scholarly persona as a key site of identity, credibility, and epistemic authority, diverse theoretical lenses have examined how it is discursively realized. Bakhtin's (1981) dialogism foregrounds the relationality of discourse, whereby each utterance responds to prior voices and anticipates future ones. Appraisal theory (Martin & White, 2005) systematizes how writers encode affect, judgment, and appreciation while negotiating dialogic space. Ivanič (1998) complements these perspectives by situating authorial voice within broader socio-discoursal processes of identity construction. Collectively, these frameworks position scholarly persona as emerging from the interplay of dialogic positioning, evaluative practice, and identity projection rather than from discrete linguistic features. Although corpus-based studies have examined these dimensions in human academic writing (e.g., Biber & Gray, 2016; Hyland, 2012; Kuteeva & Mauranen, 2014), research seldom addresses how algorithmic systems emulate such resources, raising concerns regarding the authenticity and epistemic diversity of AI-constructed personae.

Extending this theoretical groundwork, empirical research has demonstrated clear developmental progressions in how human writers construct scholarly personae. Novice undergraduates typically display constrained rhetorical repertoires, characterized by over-reliance on boosters, limited hedging, and minimal awareness of dialogic positioning (Crammond, 1998; Liu & Stapleton, 2018). Although often grammatically adequate, their writing lacks the epistemic caution and negotiated stance associated with disciplinary membership (Biber,

1998). Advanced students, in contrast, exhibit greater rhetorical sophistication: they balance hedging and boosting, diversify evaluative resources, and employ engagement strategies such as inclusive pronouns and anticipatory reader positioning (Hyland, 2012; Wingate, 2012), signaling deeper socialization into disciplinary discourse communities (Lillis, 2001). What remains insufficiently examined, however, is how these human developmental trajectories compare with algorithmic systems that generate text without social, cultural, or epistemic positioning—simulating, rather than experiencing, scholarly voice.

Against this backdrop of human developmental variation, the rise of large language models (LLMs) such as GPT-3.5, GPT-4, and Gemini has ushered in machinic agents that now participate in the production of academic texts. Recent scholarship has increasingly shifted from evaluating the linguistic quality of AI-generated writing to examining its implications for authorship, writer identity, and scholarly agency, reflecting growing concern over how generative AI is reshaping academic knowledge production and the construction of scholarly personae (Hu, Zhou, & Hashim, 2025; Wang, Xu, & Tan, 2025). These systems generate syntactically fluent and rhetorically conventional prose that simulates human scholarly style (Boettger, 2016; Öztürk, 2007). Yet concerns persist regarding the epistemic and pedagogical consequences of such outputs, particularly their replication of disciplinary norms without context-specific reasoning (Harutyunyan & Sargsyan, 2019; Hopkins & Dudley-Evans, 1988). AI-generated texts typically converge toward rhetorical homogenization—relying on patterned hedging, standardized evaluative routines, and attenuated variation—thereby obscuring the developmental idiosyncrasies that characterize human learning (Cortes, 2004; Holmes, 1997; Moon et al., 2025). Because LLMs do not occupy social or epistemic positions in the same way as human writers, their rhetorical presence is simulated through probabilistic patterning rather than experiential engagement with disciplinary discourse (Kwan, 2006; Samraj, 2002). This raises critical questions about whether the personae projected in AI-generated texts can genuinely be equated with human scholarly voice or whether they constitute algorithmic simulations devoid of dialogic and identity-based accountability (Hyland & Jiang, 2018; Vartala, 2001).

Despite extensive research on academic writing and identity, few studies have systematically compared how novice, advanced, and machine-generated texts construct scholarly personae. Human developmental trajectories are well documented, but the extent to which computational writing converges with or diverges from these practices remains underexplored. To address this gap, this study conducts a corpus-based comparison of three datasets: the First-Year Corpus (F1C), the Fourth-Year Corpus (F4C), and the AI Corpus (AIC). Grounded in dialogism (Bakhtin, 1981), Appraisal theory (Martin & White, 2005), writer-identity scholarship (Ivanič, 1998), and stance and engagement in academic discourse (Hyland, 2005a, 2005b, 2012), the analysis integrates quantitative distributional trends with qualitative interpretation of rhetorical function. By positioning synthetically produced writing along the continuum of human academic development, the study advances theoretical understanding of persona construction and provides pedagogical insights for sustaining human authorship and learner authenticity in technologically mediated contexts.

Guided by these aims, the study addresses the following research questions:

RQ1. In what ways do novice, advanced, and AI-generated academic texts construct dialogic positioning with respect to other voices and audiences?

RQ2. What evaluative resources are mobilized by these three groups to express affect, judgment, and appreciation in academic discourse?

RQ3. In what distinctive forms is scholarly identity projected across human developmental trajectories and AI-generated texts?

RQ4. What theoretical insights and pedagogical implications emerge from the convergences and divergences identified among these groups within AI-mediated academic contexts?

2. Theoretical Framework

This study conceptualizes the scholarly persona as comprising three analytically tractable dimensions: dialogic positioning (Bakhtin, 1981; Hyland, 2005a, 2005b), evaluative practice (Martin & White, 2005), and identity projection (Ivanič, 1998). Each dimension is operationalized through a comprehensive inventory of linguistic indicators used for systematic corpus searches. The complete list of search terms and coding criteria is documented in Table 1. The three analytical dimensions were operationalized through linguistic indicators because dialogic positioning, evaluative practice, and identity projection are realized through recurrent language choices in discourse. Accordingly, the lexical items listed in Table 1 were used as systematic indicators for identifying potential realizations of these rhetorical dimensions. However, lexical occurrence alone was not taken as evidence of rhetorical function. Each retrieved instance was examined in its textual context to determine whether it performed the intended dialogic, evaluative, or identity-related function before being included in the analysis.

This operationalization enables both quantitative comparison of distributional patterns and qualitative interpretation of their rhetorical functions, supporting a rigorous examination of how human and algorithmic texts enact, redistribute, or suppress the resources constitutive of scholarly persona.

Table 1. Key search terms used for feature extraction

Dimension	Subcategory	Key Search Terms
Dialogic Positioning	Hedges	may, might, could, would, seem, appear, suggest, indicate, tend to, probably, possibly, perhaps, likely, generally, often, usually, in general, it seems that, it appears that, it is possible that, it can be argued that
	Boosters	clearly, obviously, indeed, definitely, certainly, of course, in fact, it is clear that, it is evident that, show, demonstrate, prove, confirm, reveal, establish
	Engagement	you, your, let us, consider, note that, remember, as shown above, as discussed earlier
	Citation / Attribution	according to, as argued by, as suggested by, as noted by, as stated by, previous research, earlier studies, studies have shown, it has been reported that
	Interactive Metadiscourse	however, nevertheless, therefore, consequently, moreover, furthermore, in contrast, on the other hand, although, while, despite, in sum, to conclude, overall
Evaluative Practice	Affect	happy, pleased, satisfied, confident, sad, angry, worried, concerned, afraid, disappointed, interested, excited, frustrated, motivated, anxious, enthusiastic, enjoy, prefer, hope, believe, think, feel, like, love, dislike
	Judgment	responsible, competent, capable, honest, fair, unfair, reliable, successful, effective, helpful, valuable, important, essential, necessary, useful, significant, relevant, beneficial, problematic, inappropriate
	Appreciation	good, bad, excellent, poor, effective, clear, complex, simple, innovative, traditional, useful, important, interesting, valuable, meaningful, remarkable, weak, strong, significant, evident, adequate, inadequate
Identity Projection	Self-mentions	I, me, my, myself
	Institutional References	the author, the researcher, the writer, the present study, this paper, this article, this research, the current investigation, the analysis, the study
	Inclusive Authorial Positioning	we, our, us, in this study, in this paper, in the present research, here we, as we argue, as we show, as our findings indicate
	Referential Metadiscourse	I argue, I claim, I suggest, I propose, I discuss, I examine, I explore, I analyze, I focus on, I aim to, we demonstrate, we investigate, we found that, we argue that
	Impersonal / Agentless Constructions	it is argued that, it is believed that, it is suggested that, the data show, the results indicate, this suggests that
	Socio-discoursal Alignment	scholars, researchers, linguists, students, participants, academics, experts, practitioners, educators, scientists

3. Literature Review

3.1 Dialogic Agency and the Epistemic Threshold of Algorithmic Emulation

Dialogic positioning captures the ways writers orchestrate the presence of other voices and regulate how knowledge is dialogically negotiated within disciplinary discourse. Rather than foregrounding general proficiency differences, research emphasizes that the key developmental distinction lies in the writer's ability to manage dialogic space as an epistemic resource. Foundational accounts of heteroglossia situate academic writing within a network of interdependent utterances that must be acknowledged, reframed, or resisted (Bakhtin, 1981; Keating & Linell, 2000; Linell, 1998; Swales, 2004). Within this orientation, novice writers' difficulties stem not from stylistic limitation but from their restricted ability to recontextualize prior discourse, often reproducing sources without transforming their dialogic function (Crammond, 1998; Öztürk, 2007). Advanced writers, by contrast, demonstrate a more deliberate manipulation of dialogic boundaries—foregrounding, backgrounding, or strategically revoicing external positions—to construct a coherent epistemic stance (Biber & Gray, 2016; Hyland, 2005a, 2005b; Thompson & Thetela, 1995). Thus, dialogic positioning operates as an index of scholars' capacity to participate in the interpretive and relational work that defines disciplinary argumentation.

Stance-and-engagement frameworks (Hyland, 2005a, 2005b) and Appraisal theory (Martin & White, 2005) further clarify how dialogic positioning functions as a patterned, meaning-making system through which writers authorize claims, delimit interpretive space, and guide readers' alignment with propositional content. Within this theoretical landscape, corpus research shows that experienced academic writers modulate dialogic openness with greater precision, distributing evaluative and engagement markers in ways that support sustained argumentative architecture (Biber & Gray, 2016). In contrast, large language models reproduce dialogic cues without participating in the interpretive labor that underpins them: their outputs reflect probabilistic patterning rather than motivational, ideological, or epistemic orientation (Bender et al., 2021; Bommasani et al., 2021). What algorithmic systems reproduce are genre-conforming patterns, not the intentional recalibration of stance that defines genuine dialogic agency in ideological and persuasive writing (Hamed & Alqurashi, 2025a, 2025c). Accordingly, dialogic positioning becomes the distinguishing threshold between enacted scholarly presence and its computationally generated simulacrum.

3.2 Evaluative Intentionality versus the Probabilistic Simulation of Appraisal

Evaluation is a key semiotic resource through which writers construe scholarly persona, signalling affect, judgment, and appreciation while aligning their arguments with disciplinary values. Rather than serving merely expressive ends, evaluative meaning legitimises

knowledge claims and embeds them within shared epistemic norms (Hunston & Thompson, 2000; Martin & White, 2005). Corpus research demonstrates that evaluative stance is tightly linked to disciplinary reasoning, revealing how writers distribute attitudinal meaning across academic argumentation (Biber & Gray, 2016; Hamed & Alqurashi, 2025b).

Developmentally, the distinction resides in how writers calibrate evaluative force. Novice writers often compress complexity through ungraded boosters and limited hedging, producing stances that lack the epistemic modulation expected in academic discourse (Liu & Stapleton, 2018; Salager-Meyer, 1994; Varttala, 2001; Wingate, 2012). Advanced writers distribute appraisal more deliberately—employing graded lexis, measured commitment, and audience-oriented caution—to maintain interpretive openness and disciplinary accountability (Harutyunyan & Sargsyan, 2019; Hood, 2010; Hyland, 2012). In contrast, AI-generated texts display a patterned uniformity: they adopt consistently cautious yet context-indifferent evaluative routines that simulate balance while diminishing rhetorical specificity and obscuring developmental authenticity (Kasneji et al., 2023; Lund & Wang, 2023). These differences highlight the need to trace how evaluative meaning is distinctively constructed in human and algorithmic writing.

3.3 Authorial Accountability versus the Patterned Appearance of Presence

Identity projection concerns how writers inhabit academic discourse and assume responsibility for the claims they advance. It is realised through selective self-mention, calibrated authorial visibility, and alignment with disciplinary epistemologies (Hyland, 2012; Ivanič, 1998; Tang & John, 1999). Developmental accounts trace a movement from impersonal construction to purposeful self-presence that signals preparedness to engage in knowledge-making practices (Kuo, 1999; Lee, 2015). Such visibility is regulated by genre conventions and institutional norms rather than personal inclination, underscoring that scholarly legitimacy is collectively conferred rather than individually asserted (Giltrow, 2002).

By contrast, machine-generated prose reproduces only the surface tokens of identity. Recent corpus-based evidence supports this distinction by showing that AI-generated academic writing exhibits systematic differences in the linguistic realization of authorial identity when compared with human-authored texts. Hampson (2026) demonstrates that although AI-generated writing can reproduce conventional markers of academic discourse, its realization of authorial identity differs from that of human writers, reinforcing the need to distinguish rhetorical performance from socially situated scholarly presence. Although it may deploy first-person forms or authorial cues, these do not index membership, responsibility, or experiential stake, but instead create an appearance of presence devoid of disciplinary anchoring (Pennycook, 1994). This disparity foregrounds a central tension in contemporary academic communication: how identity is performed—and to what extent it can be performed—when discourse originates from a source incapable of occupying the positionalities it linguistically enacts.

3.4 Research Gap and Contribution

Although prior scholarship has delineated how scholarly persona is constructed in human academic writing, the rhetorical status of persona in machine-generated discourse remains insufficiently theorised. Missing from existing work is a principled account of how authorial presence, credibility, and epistemic alignment are discursively enacted when the writer is not an embodied participant in disciplinary life. This study addresses this gap by offering the first systematic comparison of persona construction across novice, advanced, and AI-produced texts, clarifying the distinctions between socially situated scholarly voice and the patterned, non-accountable forms of presence produced through computational generation. In doing so, it contributes a conceptual and empirical framework for understanding how scholarly persona operates across human and non-human modes of authorship.

4. Methodology

4.1 Research Design

This study uses a corpus-based comparative design combining quantitative frequency analysis with qualitative rhetorical interpretation. Automated extraction (via OpenAI) identifies dialogic, evaluative, and identity features across novice, advanced, and AI-generated texts, while contextual interpretation is conducted manually to ensure theoretical validity. This mixed approach reveals developmental tendencies in human writing and distinguishes them from algorithmic simulation.

4.2 Corpora

The study analyzes three parallel corpora: F1C (9,911 tokens), F4C (10,579 tokens), and AIC (9,850 tokens). The human data include 100 Arabic-speaking L2 English majors (50 first-year, aged 18–19; 50 fourth-year, aged 21–22), all at B1–B2 CEFR levels. Each produced a 150–200-word paragraph responding to the prompt “**Social**”, submitted digitally to maintain a consistent mode of composition. The writing task was selected because it required participants to develop and support an academic argument on a familiar topic, thereby creating opportunities for the deployment of dialogic positioning, evaluative practice, and identity projection. Although relatively short, the task elicited the core rhetorical resources through which scholarly persona is constructed, enabling systematic comparison of how novice writers, advanced writers, and AI systems negotiated stance, evaluation, and authorial presence under equivalent writing conditions. AIC was generated using GPT-3.5, GPT-4, and Gemini, with identical prompts specifying topic, length, and tone to mirror the human texts. Each AI response constituted a single independent corpus entry and was incorporated into the dataset in its original generated form, without post-generation modification. Each AI model was prompted separately using the same prompt, and the resulting outputs were compiled into a single AI corpus for comparison with the two human corpora. Student submissions were anonymized, and AI outputs archived with model-specific metadata. This ensured direct comparability between human writing and algorithmic simulation.

4.3 Analytical Methods

The analysis operationalized dialogic positioning, evaluative practice, and identity projection through defined linguistic indicators, with the complete search-term inventory provided in Table 1. The same analytical procedure was applied independently to the F1C, F4C, and AIC corpora using the predefined search terms listed in Table 1, followed by manual verification of all retrieved instances. Automated extraction (via standardized prompts) generated preliminary frequency counts for each feature in F1C, F4C, and AIC; all hits were manually verified for contextual and functional accuracy. For example, lexical items retrieved through the automated search were retained only when their contextual use corresponded to the operational definition of the relevant analytical category. Thus, a retrieved item such as *we* was coded as inclusive authorial positioning only when it indexed the writer's authorial stance, whereas references to a general social group were not coded under this category. Similarly, evaluative items such as *important* were classified as appreciation only when they functioned to evaluate an entity, concept, or phenomenon within the surrounding discourse. Frequencies were normalized per 1,000 tokens, and chi-square tests ($p < .05$) identified statistically significant differences. A subsequent qualitative phase examined how these features enacted stance, evaluation, and identity in context, enabling interpretation of human developmental patterns versus algorithmic simulation.

4.5 Reliability and Validation

A second analyst independently coded 20% of the data, yielding agreement above 85%; discrepancies were resolved through consensus. Quantitative outputs were cross-checked and category definitions refined to ensure consistent coding across corpora and secure analytical reliability and interpretative validity.

4.6 Ethical Considerations

The study adhered to the ethical principles of the Helsinki Declaration. Institutional review board approval was obtained, and all student participants provided informed consent for the use of anonymized texts. AI outputs were generated under standardized prompting conditions to ensure comparability.

5. Results

Tables 2–4 present the complete quantitative distribution of dialogic, evaluative, and identity-based features across the three corpora and therefore provide the empirical foundation for the analyses that follow. Table 2 details the novice profile (F1C):

Table 2. Summary of results: first-year corpus (F1C)

Tokens: 9911

Analytical Dimension	Sub-Feature	Raw Count	Normalized (/1,000)
Dialogic Positioning	Hedges	17	1.71
	Boosters	5	0.50
	Engagement	104	10.50
	Citation / Attribution	0	0.00
	Interactive Metadiscourse	3	0.30
Subtotal – Dialogic		129	13.02
Evaluative Practice (Attitude System)	Affect	170	17.15
	Judgment	43	4.34
	Appreciation	91	9.18
Subtotal – Evaluative		304	30.67
Identity Projection	Self-Mentions	929	93.73
	Institutional References	0	0.00
	Inclusive Authorial Positioning	216	21.79
	Referential Metadiscourse	0	0.00
	Impersonal / Agentless	0	0.00
	Socio-Discoursal Alignment	11	1.11
Subtotal – Identity		1156	116.46
Overall Totals:			
Category	Raw Total	Normalized (/1,000 tokens)	
Dialogic Positioning	129	13.02	
Evaluative Practice	304	30.67	
Identity Projection	1156	116.46	
Grand Total (All Features)	1589	160.33	

Table 3 captures the reorganized configuration in advanced writing (F4C):

Table 3. Summary of results: fourth-year corpus (F4C)

Tokens: 10,579

Analytical Dimension	Sub-Feature	Raw Count	Normalized (/1,000)
Dialogic Positioning	Hedges	26	2.46
	Boosters	37	3.50
	Engagement	8	0.76
	Citation / Attribution	0	0.00
	Interactive Metadiscourse	25	2.36
Subtotal – Dialogic		96	9.08
Evaluative Practice (Attitude System)	Affect	194	18.33
	Judgment	73	6.90
	Appreciation	114	10.78
Subtotal – Evaluative		381	36.02
Identity Projection	Self-Mentions	1016	96.04
	Institutional References	0	0.00
	Inclusive Authorial Positioning	159	15.03
	Referential Metadiscourse	0	0.00
	Impersonal / Agentless	0	0.00
	Socio-Discoursal Alignment	18	1.70
Subtotal – Identity		1193	112.77
Overall Totals:			
Category	Raw Total	Normalized (/1,000 tokens)	
Dialogic Positioning	96	9.08	
Evaluative Practice	381	36.02	
Identity Projection	1193	112.77	
Grand Total (All Features)	1670	157.86	

Table 4 documents the markedly reduced rhetorical footprint in algorithmic output (AIC):

Table 4. Summary of results: AI corpus (AIC)

Tokens: 9,850

Analytical Dimension	Sub-Feature	Raw Count	Normalized (/1,000)
Dialogic Positioning	Hedges	56	5.69
	Boosters	15	1.52
	Engagement	23	2.34
	Citation / Attribution	5	0.51
	Interactive Metadiscourse	39	3.96
Subtotal – Dialogic		138	14.01
Evaluative Practice (Attitude System)	Affect	39	3.96
	Judgment	52	5.28
	Appreciation	83	8.43
Subtotal – Evaluative		174	17.77
Identity Projection	Self-Mentions	0	0
	Institutional References	0	0.00
	Inclusive Authorial Positioning	0	0.00
	Referential Metadiscourse	0	0.00
	Impersonal / Agentless	0	0.00
	Socio-Discoursal Alignment	16	1.63
Subtotal – Identity		16	1.63
Overall Totals:			
	Dialogic Positioning	138	14.01
	Evaluative Practice	174	17.6
	Identity Projection	16	1.63
Grand Total (All Features)		328	33.30

These tables guide both the cross-corpus comparisons in Section 5 and the interpretive synthesis developed in Section 6, enabling a coherent linkage between quantitative patterns and the theoretical implications articulated in the discussion.

5.1 Overview and Cross-corpus Quantitative Summary

The comparative analysis reveals clear quantitative contrasts across the three analytical dimensions of scholarly persona, as illustrated in Figure 1:

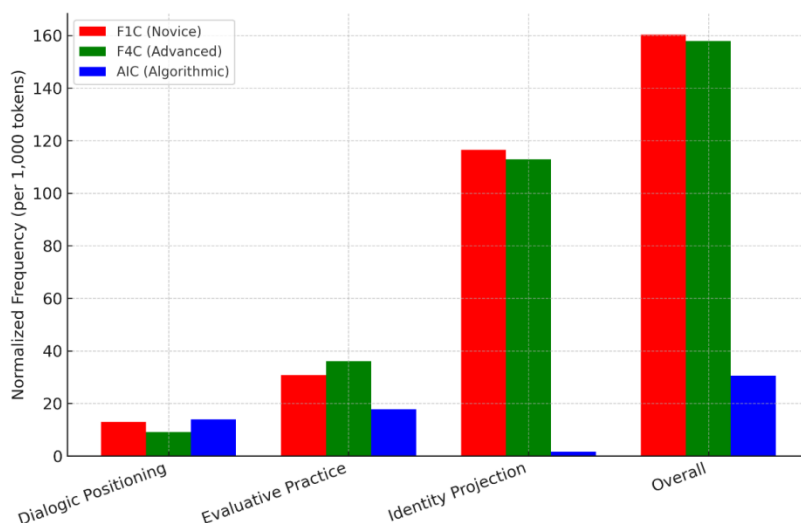


Figure 1. Cross-corpus Distribution of Dialogic Positioning, Evaluative Practice, and Identity Projection

F1C shows the highest overall rhetorical density, with 160.33 occurrences per 1,000 tokens, indicating extensive reliance on interpersonal and author-centered resources. F4C registers a closely comparable total of 157.86 occurrences per 1,000 tokens, reflecting a redistribution rather than a reduction of rhetorical features as writers advance. In stark contrast, AIC contains only 30.56 occurrences per 1,000 tokens, demonstrating a substantial contraction of persona-constructive resources.

Across dimensions, identity projection is the most dominant category in human writing, declining only slightly from 116.46 in F1C to 112.77 in F4C, before collapsing to 1.63 in AIC. Evaluative practice increases from 30.67 in F1C to 36.02 in F4C, then contracts to 17.66 in AIC. Dialogic positioning is the least frequent dimension in human writing—13.02 in F1C and 9.08 in F4C—yet appears comparatively more pronounced in AIC at 14.01, reflecting patterned connective and modal scaffolding without the interpersonal density seen in human texts.

Chi-square analyses of the distributions of sub-features across the three corpora confirmed significant cross-corpus variation for all three analytical dimensions: dialogic positioning, $\chi^2(8, N = 363) = 202.86, p < .001$; evaluative practice, $\chi^2(4, N = 859) = 55.97, p < .001$; and identity projection, $\chi^2(4, N = 2365) = 843.74, p < .001$.

5.2 Dialogic Positioning

Figure 2 shows a clear shift in how dialogic positioning operates across the three corpora:

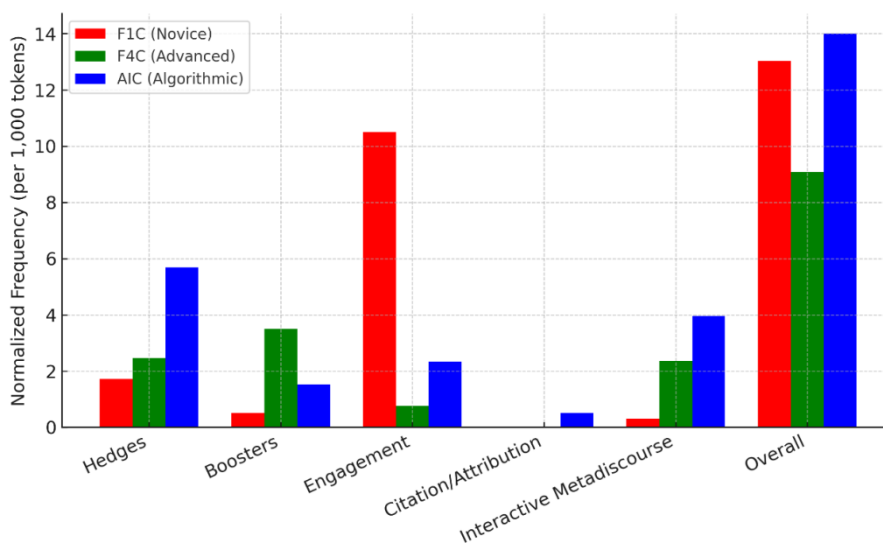


Figure 2. Cross-corpus distribution of dialogic positioning sub-features (F1C, F4C, and AIC)

In human writing, this dimension remains relatively limited, with a noticeable reduction as writers progress from the first to the fourth year. In AIC, however, its prominence increases again, but this rise reflects a different process: AI systems insert dialogic cues through recurrent patterns of linkage and modulation rather than through purposeful interaction with a reader. The trend therefore marks a movement from

human, context-sensitive use of engagement markers to algorithmically produced sequences that imitate dialogic movement without participating in it.

Hedging increases across the three corpora, rising from 1.71 in F1C to 2.46 in F4C and peaking at 5.69 in AIC. Boosters likewise rise numerically, from 0.50 in F1C to 3.50 in F4C and 1.52 in AIC. Engagement is dominant in F1C (10.50) but drops sharply to 0.76 in F4C and remains limited in AIC (2.34). Interactive metadiscourse shows marked developmental growth from 0.30 in F1C to 2.36 in F4C, and remains comparatively high in AIC (3.96). Citation and attribution are absent in human writing (0.00 in both F1C and F4C) but appear minimally in AIC (0.51).

A chi-square test confirmed significant cross-corpus variation in dialogic positioning, $\chi^2(8, N = 363) = 202.86, p < .001$. Taken together, the distribution indicates distinct rhetorical configurations: F1C relies predominantly on reader engagement to enact dialogicity; F4C shifts toward disciplinary modulation through increased hedging, boosters, and metadiscursive guidance; and AIC emphasizes patterned scaffolding, deploying hedges and connective sequencing while maintaining relatively low interpersonal involvement.

5.3 Evaluative Practice

As shown in Figure 3, evaluative practice remains highly prominent in human writing and noticeably contracts in AIC:

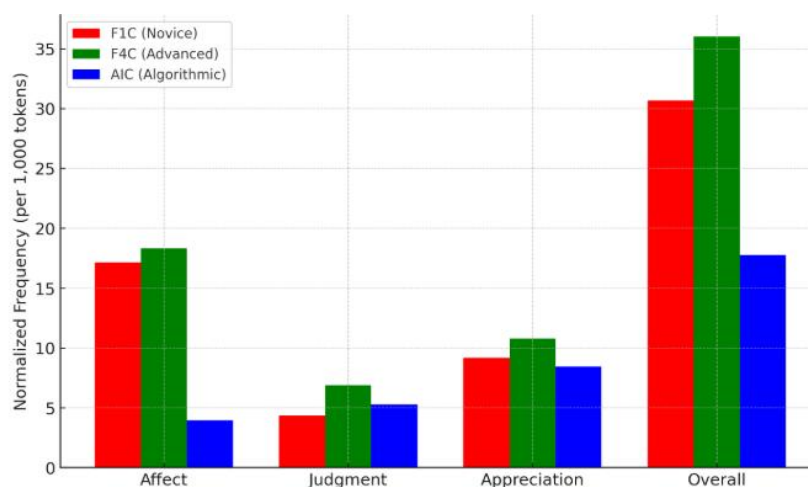


Figure 3. Cross-corpus distribution of evaluative practice sub-features (F1C, F4C, and AIC)

The normalized totals are 30.67 in F1C, 36.02 in F4C, and 17.77 in AIC, indicating that appraisal remains a major rhetorical resource for students but is markedly reduced in algorithmic output.

Affect is the most frequent evaluative resource, occurring at 17.15 in F1C and 18.33 in F4C, but dropping sharply to 3.96 in AIC. Appreciation ranks second, rising from 9.18 in F1C to 10.78 in F4C before decreasing to 8.43 in AIC. Judgment is least frequent, though it shows developmental growth from 4.34 in F1C to 6.90 in F4C and remains present in AIC at 5.28.

A chi-square test confirms that these contrasts are statistically significant, $\chi^2(4, N = 859) = 55.97, p < .001$, demonstrating that the configuration of evaluative sub-features differs systematically across the three corpora. Overall, F1C and F4C maintain Affect as the dominant evaluative resource, with developmental refinement reflected in increased Judgment and more functionally oriented Appreciation, whereas AIC compresses evaluative meaning by markedly suppressing affective expression and distributing a narrower, more homogenized set of appraisal markers.

5.4 Identity Projection

As shown in Figure 4, identity projection is the most densely realized dimension in human writing but collapses almost entirely in AIC:

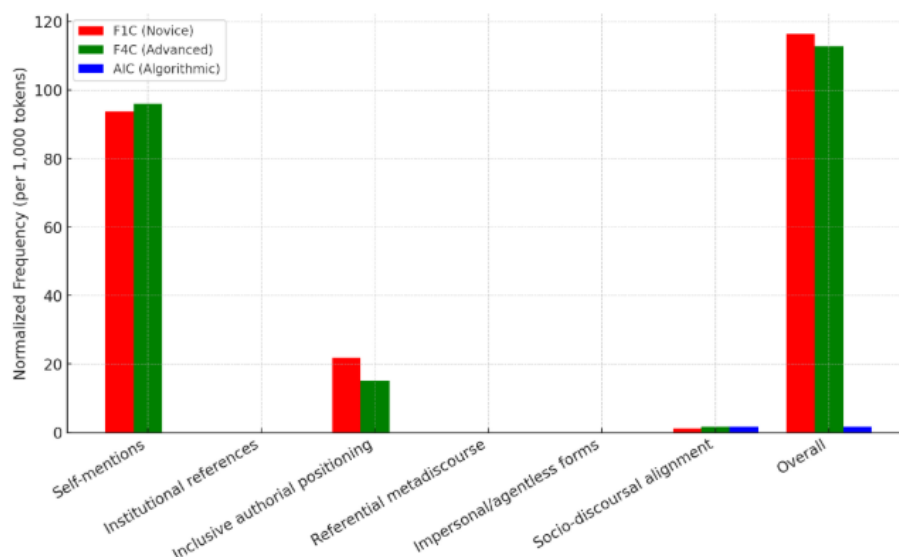


Figure 4. Cross-corpus distribution of identity projection sub-features (F1C, F4C, and AIC)

Overall normalized frequencies are 116.46 in F1C, 112.77 in F4C, and only 1.63 in AIC, indicating that authorial presence remains highly salient in both human corpora but is effectively eliminated in algorithmic output.

Self-mentions dominate identity construction in both human datasets (93.73 in F1C; 96.04 in F4C), followed by inclusive authorial positioning (21.79; 15.03). In AIC, both of these categories disappear completely (0.00), leaving only socio-discoursal alignment (1.11; 1.70; 1.63) as a residual trace of voice across the three corpora. Institutional references, referential metadiscourse, and impersonal constructions show zero occurrence throughout.

A chi-square test confirms that these cross-corpus differences are statistically significant, $\chi^2(4, N = 2365) = 843.74$, $p < .001$., indicating that the virtual elimination of authorial presence in AIC represents a categorical departure from human identity projection. Taken together, the results show that human writers foreground themselves as epistemic agents—primarily through self-mention and selected inclusivity—while AIC removes the linguistic markers that index authorship, accountability, and participation in knowledge-making.

6. Discussion

6.1 Dialogic Positioning and Epistemic Interaction across Human and Algorithmic Texts (RQ1)

6.1.1 Engagement-dominant Dialogicity with Minimal Stance and Structural Scaffolding in F1C

Dialogic positioning in F1C is overwhelmingly constructed through reader engagement, which functions as the primary mechanism for interaction. Writers frequently employ second-person directives such as “you can see movies, series, and channels on it” and “you can find out the news,” positioning the reader as an active participant in everyday digital practices rather than as an academic interlocutor. Similar invitations—“you can connect with anyone whom you to connect with from anywhere in the world” and “on TikTok, you can watch video”—simulate shared action and experience, sustaining a conversational tone grounded in familiarity and collective participation.

Stance resources are notably underdeveloped. Hedging is limited and typically indexes personal uncertainty rather than epistemic caution, as in “I try to fix but not always remember” or “Sometimes I not read all.” Boosters appear only sporadically, most often as categorical assertions (“Facebook is important type of social media”) that lack evidential support. Structural scaffolding is likewise minimal: metadiscourse rarely guides the reader (“we talk about WhatsApp as it became one of excellent program”) and citation or attribution is entirely absent. Taken together, the profile reflects an early developmental stage in which dialogicity relies on direct interpersonal involvement rather than the disciplinary negotiation of claims, alternatives, and external voices.

6.1.2 From Reader Engagement to Stance-modulated Textual Guidance in F4C

Dialogic positioning in F4C reflects a shift toward internalized rhetorical control rather than direct interaction with the reader. Engagement is reduced sharply, and dialogicity is instead enacted through stance modulation and growing metadiscursive awareness. Boosters constitute the most frequent dialogic mechanism, emphasizing topic significance through confident assertions such as “Social media has become very important for students,” “Social media communication is very important in our life now,” and “WhatsApp is important for our class group.” These markers reinforce propositional commitment while leaving space for contestation.

Hedges further indicate recognition of contingency and alternative viewpoints. Expressions like “I think social media can waste time if we use it too much,” “One of the social media advantages is that I can learn from people,” and “We can learn we can teach we can share”

temper generalizations and acknowledge disciplinary uncertainty. Interactive metadiscourse supports local coherence by signaling relations between propositions. Minimal contrast and additive cues—"But there are social media disadvantages..."; "also I read post that are not true"—guide interpretation without interpersonal address.

Citation remains absent, and reader engagement is marginal. Overall, F4C demonstrates a more text-centered dialogic configuration: claims are modulated and organized rhetorically, yet interaction remains internal rather than socially or intertextually grounded.

6.1.3 Structural Dialogicity without Interpersonal Negotiation in AIC

Dialogic positioning in AIC is primarily constructed through hedging, which represents the most prominent resource in this corpus. Modal expressions such as "can reduce opportunities for face-to-face communication," "can improve teamwork," and "may lack the depth and reciprocity of offline relationships" simulate a balanced stance but do so in a patterned and context-insensitive manner. The apparent dialogic openness therefore arises from algorithmic design rather than from engagement with competing perspectives.

Metadiscourse plays a secondary role, organizing propositions through predictable connectors such as "However, there are also negative aspects" and "In conclusion." These transitions maintain surface coherence while withholding cues that would clarify the writer's reasoning or acknowledge interlocutors in a disciplinary space.

Engagement is weaker still, limited to generalized second-person references and rhetorical gestures such as "Want to succeed in your career?" which gesture toward an audience without actually situating readers within the knowledge exchange. Boosters follow in frequency and create categorical assertions, as in "Social interaction is the foundation of human development" and "Social justice is essential," yet these claims are unsupported and do not anticipate critique.

Finally, attribution emerges only through vague allusions such as "studies show" or isolated mentions like "Vygotsky's theory," without integration of external voices. AIC therefore exhibits dialogicity as a structural simulation of interaction rather than as a negotiated, context-responsive exchange.

6.1.4 Cross-corpus Synthesis and Response to RQ1: Interpersonal Engagement (F1C), Stance-modulated Control (F4C), and Structural Simulation (AIC)

Developmental variation in dialogicity reflects the socialization of writers into academic epistemologies. In F1C, the dominance of engagement indicates that novice writers compensate for limited disciplinary knowledge by appealing to shared experience and direct reader involvement. This aligns with Ivanič's (1998) view that early academic identity is relational and experiential rather than epistemic.

F4C demonstrates a shift toward stance-regulated dialogicity: hedging, boosters, and metadiscourse support propositional calibration and emerging argument structure. Such movement toward text-internal negotiation corresponds to Hyland's (2005a) claim that advancing writers internalize audience expectations by managing commitment and coherence rather than relying on interpersonal address.

AIC diverges structurally. While its dialogic markers resemble academic writing, they function statistically rather than rhetorically: modal caution, transitions, and emphatics are applied without situational motivation or interactional accountability. This challenges assumptions that AI simply replicates novice performance; instead, AI produces context-free dialogic approximation that lacks what Swales (2004) describes as discourse community participation.

This divergence reveals dialogicity as a socially contingent epistemic practice that AI cannot inhabit, only reproduce as detached formal patterning.

6.2 Evaluative Resources across Human and AI-generated Academic Texts (RQ2)

6.2.1 Affect-led Appraisal with Subordinated Appreciation and Marginal Judgment in F1C

Evaluation in the F1C emerges as principally affective, revealing novice reliance on emotional experience as the primary warrant for meaning-making. Statements such as "I love social media," "I feel happy when people like my post," "I was sad" (after "only get 10 like"), "It make me smile," "I feel shy to post," "Social media make me feel not alone," "I like facebook and telegram," "I enjoy to try," and "I want to write perfect one day" foreground personal feeling as the legitimate basis of stance. Affect becomes a surrogate for evidence because learners have not yet internalized disciplinary expectations for reasoned justification; emotion itself substitutes for argument.

Appreciation is the secondary evaluative mode, oriented toward artifacts and activities rather than claims. When learners assert "TikTok is the best app for me," "Social media is very important," "Twitter is very important," "YouTube is one of the best applications," "Facebook is important type of social media," "Instagram is my favorite," "The internet is a global network," and "Social media is part of my life," value is attributed through categorical declarations. These appraisals elevate technologies through personal enthusiasm rather than explicit criteria, reflecting a cognition shaped by everyday utility and enjoyment, not disciplinary evaluation.

Judgment is least developed, surfacing cautiously in prudential advice such as "we should use social media carefully" and "I must not use social media all time for passing time," alongside responsibility-deflecting attributions ("my mom say stop," "teacher say it's ok just try"). This minimal moral stance indicates that novice writers avoid normative authority, preserving interpersonal safety and avoiding accountability for evaluative risk.

Across all categories, boosters and definitive predicates sustain an over-assertive style: "We can not live without social media," "TikTok

is the best,” “YouTube is the best,” “WhatsApp is most useful,” “Facebook is one of the most important social media in the world,” and flat rejections like “I no like” and “I don’t like silent.” Such high certainty reflects a developmental phase in which persuasion is attempted through conviction rather than modulation, because learners lack the linguistic and epistemic resources to hedge claims or differentiate value hierarchies.

Taken together, the F1C evaluative pattern positions personal affect as the primary epistemic anchor, with Appreciation functioning as unconditioned endorsement and Judgment remaining largely avoided. Affect foregrounds the self as the principal arbiter of meaning; Appreciation extends value through preference rather than criteria; and Judgment appears only in low-risk admonitions that protect interpersonal harmony. The overall profile therefore reflects writers who remain situated within an everyday communicative ecology—one where emotional immediacy, social belonging, and experiential authenticity carry more authority than disciplinary reasoning or evidence-based evaluation.

6.2.2 Affect-dominant Evaluation with Functional Appreciation and Emerging Judgment in F4C

Evaluation in the F4C demonstrates a measurable developmental shift from novice persuasion-through-feeling toward reasoned appraisal grounded in academic usefulness. Although Affect remains the most frequent evaluative mode, it no longer drives stance independently. Emotional references such as TikTok being “fun but also useful,” or feeling “shy in Zoom meeting but it help my speaking,” contextualize feeling within purposeful engagement. The move away from absolute like–dislike assertions reflects increasing awareness that personal emotion alone does not constitute credible academic evaluation.

Appreciation is recalibrated to emphasize affordances linked to learning and communicative efficiency. Platforms are “useful for study,” “good for reading,” and “helpful for student,” enabling acquisition of “academic words,” rapid contact with “friends and classmates,” and access to “pronunciation and speaking ideas.” Here, value arises from demonstrable outcomes rather than enthusiasm. Unlike F1C, where enjoyment was sufficient justification, fourth-year writers articulate implicit criteria—relevance, productivity, and cognitive gain—that align with emerging disciplinary expectations.

Judgment remains least frequent but displays distinct maturation. Rather than self-focused confessions, evaluation targets usage practices: “Sometimes I waste time,” “Not all information is correct,” and “Some post are fake and confuse me. My teacher say to be careful what we read.” Writers also recognize collaborative responsibility as classmates “help each other,” “correct each other,” and prepare “for exam and project.” This shift indicates an early grasp of academic accountability, where critique is cautiously directed at information quality and user choices rather than technology itself.

As learners reach the fourth year, evaluation becomes more calibrated and less emotionally driven. Rather than categorical claims such as “TikTok is the best,” value is conditioned through modal phrasing: “I think social media can waste time if we use it too much” or “it (Social media) is good tool if we use it in right way.” Appreciation is increasingly grounded in academic function—platforms are valued for language practice, academic assistance, and efficient communication—while Affect recedes to a supportive role. Critique targets usage choices rather than the platforms themselves. This redistribution of evaluative work—from enthusiasm to justification—signals developing alignment with academic norms of balanced appraisal. Judgment also becomes more context-sensitive, balancing benefit and risk: “Social media advantages are many. I feel more confident now because I practice more. But sometimes I forget time and keep looking at phone for hours” and “This is part of social media communication that help in learning. But there are social media disadvantages also.”

Overall, the F4C evaluative profile reflects a transitional stage in which stance is no longer anchored in personal emotion but increasingly shaped by functional criteria and emerging accountability. Affect remains present but operates as contextual support; Appreciation foregrounds academic utility and communicative effectiveness; and Judgment begins to engage issues of information quality, responsible use, and collaborative practice. The result is a more moderated, criterion-aware evaluative stance that signals developing alignment with the epistemic expectations of academic discourse.

6.2.3 Compressed Appreciation, Restricted Judgment, and Attenuated Affect in Algorithmic Evaluation in AIC

Appreciation appears slightly more frequently than other evaluative resources in the AIC, but its occurrence remains minimal and semantically neutral. Descriptions such as “important,” “useful,” and “beneficial” are applied uniformly to social media, social interaction, social norms, and social justice, supported by standardized justifications—“Participating in social activities ...improves mental and emotional well-being,” “these events create opportunities for people to connect,” “social interaction supports learning.” The algorithm distributes value broadly and evenly, creating appraisal without prioritization because simulated discourse has no reason to differentiate stakes.

Judgment is similarly reduced and detached from agency. Statements like “social skills are important,” “everyone deserves equal rights,” and “good social interaction can improve teamwork” present evaluation as universally accepted truth rather than as a position requiring accountability. References to “cyberbullying,” “misinformation,” or “reduced attention spans” name social issues without attributing responsibility, while guidelines such as “Healthy social media use includes setting boundaries, diversifying content, verifying information, and taking regular digital breaks” codify conduct rather than critique choices. This design avoids the epistemic risk inherent in real judgment.

Affect is least visible and appears only through reported social benefit: “it allows people to stay connected,” “technology provides more ways to connect,” “people are more likely to be happy and confident.” The stance is observational, not experiential, revealing an absence of the embodied investment that characterizes human evaluation.

The overall pattern reflects algorithmic compression: evaluation is present as a structural requirement of academic style but is minimized to maintain neutrality. Positive remarks are routinely counterbalanced by templated caveats—“however, there are also negative aspects”—signaling rhetorical compliance rather than situational reasoning. Without lived experience or discourse-community participation, the model cannot decide what matters more; thus, appraisal becomes a procedural simulation lacking tension, hierarchy, and consequence.

Collectively, the AIC enacts an evaluation that is technically correct yet epistemically uncommitted: Appreciation is light and interchangeable, Judgment abstract and impersonal, and Affect externally reported. The persona is therefore fluent but disembedded—an imitation of academic evaluation that removes the human chooser who must rank values, take sides, and bear responsibility for judgment.

6.2.4 Cross-corpus Synthesis and Response to RQ2: Experiential Affectivity (F1C), Purpose-linked Appreciation (F4C), and Template-based Appraisal (AIC)

Cross-corpus contrasts in evaluative practice indicate that the development of Attitude is inseparable from the epistemic orientations writers are able to inhabit. In the F1C, appraisal reflects experiential affectivity, confirming Martin and White’s (2005) premise that beginners rely on emotion when they cannot yet anchor value in disciplinary norms. Evaluation here draws authority from the immediacy of lived experience, revealing a rhetorical stance grounded in personal certainty rather than intersubjective legitimacy.

In the F4C, evaluation is realigned through purpose-linked Appreciation, consistent with Hood’s (2010) view that academic appraisal emerges when writers learn to justify value through function, relevance, and socially ratified criteria. Although Affect continues to surface, it no longer drives stance independently; instead, it operates as supportive affective framing for academically oriented claims. The stance shifts from expressive affirmation to reasoned endorsement, signaling an emergent uptake of what counts as evidence in academic culture. Epistemic commitment begins to reflect not only what the writer feels but what the discourse community is likely to recognize as meaningful.

In contrast, the AIC enacts template-based appraisal: Attitude is distributed evenly and often counterbalanced automatically, simulating moderation without the interpretive work it entails. As Hunston and Thompson (2000) observe, evaluation is only consequential when it positions the writer within a social field of responsibility. The algorithmic system, lacking participation in that field, produces stance without agency, alignment without risk, and appraisal without prioritization. It achieves formal propriety at the cost of epistemic investment.

Taken together, these trajectories demonstrate that evaluative maturity involves transitioning from affective self-validation toward accountable reasoning grounded in disciplinary values. Human writers incrementally assume responsibility for their evaluations as they gain membership within communities of knowledge. By contrast, AI-generated texts replicate the surface structure of appraisal but cannot engage in the evaluative commitments that make stance epistemically operative. Through this contrast, appraisal emerges as a fundamentally epistemic act, meaningful only when it channels a value source to which the writer can be answerable—something human development gradually enables and algorithmic simulation reproduces only in form.

6.3 Authorial Identity and the Projection of Scholarly Selfhood across Human and Algorithmic Texts (RQ3)

6.3.1 Personalized Presence as the Primary Index of Scholarly Identity with Limited Collective Alignment in F1C

Identity in F1C is overwhelmingly realized through self-mention, the single most dominant resource by a wide margin. Writers foreground their personal engagement with social media as the principal warrant for meaning-making, opening with experiential assertions such as “I using WhatsApp all day with my friends” and “I like to watch food recipe but also I love cat videos.” Emotional states are repeatedly invoked to secure presence—“I feel shy,” “I was sad,” “I feel happy when people like my post”—indicating that stance is grounded in self-presence and lived engagement rather than in academically accountable reasoning.

A secondary but distinctly weaker layer of identity emerges through inclusive authorial positioning. Expressions like “We have one group for class,” “We help each other with study,” and “We send voice note because typing is slow” index the learner’s affiliation with peers in immediate social environments. The collective “we” here reflects interpersonal solidarity and everyday collaboration, not the co-membership of a disciplinary or epistemic community.

Socio-discoursal alignment appears only minimally. Mentions of “teacher,” “classmate,” “family,” or generalized “people”—as in “teacher send answer key,” “my cousin send message,” and “people share everything on social media”—locate writers within familiar social hierarchies. Yet these roles remain situated in personal life rather than in institutional or scholarly contexts.

Equally defining is the complete absence of institutional authorial voice. Students do not frame their writing as investigation (“this study”), adopt argumentative positioning (“I argue”), or employ impersonal constructions that detach propositions from the self. Instead, they narrate their own linguistic development: “I write comment English but make spelling error,” “I try to fix but not always remember,” and “I want to write good English and make long post.” Writing is conceptualized as personal growth rather than as a contribution to shared knowledge.

In sum, the novice scholarly persona in F1C is emergent and pedagogically transitional. Visibility functions as a pre-condition for later epistemic accountability: learners embrace presence—"I post," "I try," "I learn"—to negotiate legitimacy and confidence, while still lacking the representational resources to project themselves as academic agents. Academic identity is therefore enacted as self-expression within a semi-public communicative space where personal narrative precedes disciplinary alignment.

6.3.2 Recalibrated Dominant Self-visibility with Functionally Oriented Inclusivity in F4C

Identity construction in F4C remains overwhelmingly grounded in self-mention; however, the "I" now signals purposeful academic development rather than personal storytelling. Writers define themselves as learners working toward improvement, as reflected in statements like "I try to use new word," "I write what I hear," and "I want to speak and write fluently one day." Emotional references are retained but recontextualized to support learning narratives—"I feel shy in Zoom meeting but it help my speaking"—indicating a shift from affective self-display to performance aligned with academic goals.

Inclusive authorial positioning appears less frequently and is oriented toward shared academic responsibilities rather than social bonding. Utterances such as "We have group for class," "We help each other to be better," and "We send voice message when we cannot type" frame collectivity as collaboration in learning tasks, suggesting early awareness of participation within a learning community rather than casual peer affiliation.

Socio-discoursal alignment shows slight expansion through mentions of teachers, university pages, class groups, and educational platforms. Expressions like "teacher send answer key," "I follow university pages," and "I join grammar channel for exam preparation" position writers within a structured instructional environment. These affiliations introduce a tentative sense of institutional embeddedness, though still at a practical rather than epistemic level.

Crucially, institutional self-referencing, referential metadiscourse, and impersonal constructions remain entirely absent. Writers do not frame their text as analysis or investigation, assume argumentative responsibility, or detach propositions from the self. This absence underscores that, despite engagement with academic practices, learners have not yet developed a voice that speaks from within disciplinary knowledge.

Taken together, the F4C identity profile reflects a recalibration of dominant self-visibility toward academic purpose. Presence is still personally anchored, but now mediated through learning objectives, collaborative academic action, and early institutional alignment. Writers are transitioning from expressing themselves in the world to locating themselves within the educational structures that shape emerging scholarly agency.

6.3.3 Algorithmic Effacement of Authorial Presence in AIC

Identity in the AI corpus is defined foremost by the total absence of self-mention. There is no autobiographical presence, no assertion of lived experience, and no indication that the voice speaking has a stake in what is said. Inclusive authorial positioning is likewise absent; there is no credible "we" that indexes collective participation, disciplinary membership, or shared epistemic responsibility. The self never enters the text as an accountable agent.

What remains are thin traces of generalized human reference that gesture toward communal ideals without belonging to any community. Expressions such as "societies can become more inclusive," "communities come together in crisis," and "companies that support charitable causes" create the semblance of social alignment, yet the source remains unlocated. The utterance invites solidarity while withholding the subject who might inhabit that solidarity.

Rhetorical invitations like "Let's face it" or "Want to succeed in your career?" simulate interpersonal connection without any biographical grounding. These are scripted interactional cues that approximate rapport rather than project identity. Similarly, impersonal assertions—"Social behavior shapes engagement" or "Learning is not merely an individual cognitive process"—present knowledge as universally authorized, detached from anyone who claims or evaluates it.

Institutional positioning is entirely missing: no teachers, no coursework, no role in any educational structure. Referential identity is also absent: the texts never frame themselves as argument, inquiry, or contribution to knowledge. They circulate propositions without acknowledging the writing situation that produced them.

The result is a communicative voice devoid of presence. The discourse is fluent, relational, and rhetorically organized, yet fundamentally uninhabited. What appears is not an emerging academic self but the removal of selfhood altogether: a textual surface that speaks to everyone while belonging to no one. In AIC, authorial identity is not immature but erased—academic writing executed as reproducible pattern rather than as the work of a human agent situated within a community of knowledge.

6.3.4 Cross-corpus Synthesis and Response to RQ3: Personalized Self-presence (F1C), Purpose-oriented Academic Agency (F4C), and Algorithmic Effacement of voice (AIC)

The progression across the three corpora shows that identity in academic writing evolves in relation to how writers understand their position within knowledge-making practices. In the early stage, identity in F1C is grounded almost entirely in the autobiographical self. Students depend on their personal experiences and emotions to authorize what they write, using visibility as a means to establish legitimacy. This aligns with Ivanič's interpretation of novice identity as rooted in lived experience, where writing serves primarily as self-assertion rather than disciplinary participation (Ivanič 1998). Agency is located in the writer's everyday presence, producing texts that

are socially expressive but not epistemically engaged.

In F4C, identity remains personally anchored but shifts toward participation in educational structures. Writers present themselves as learners who are accountable for progress, aligning more closely with the socially situated view of authorial identity described by Hyland (2012). The collective “we” becomes academically purposeful, signaling collaboration and emerging membership in a learning community. Although writers still speak as individuals rather than institutional actors, they begin to negotiate their role within the broader project of academic communication.

The AI-generated corpus diverges fundamentally from this developmental trajectory. There is no self that stands behind claims and no writer who bears responsibility for meaning. While language gestures toward communal belonging or shared human values, the absence of experiential grounding results in what Bakhtin characterizes as uninhabited voice, with utterances that circulate without a subject (Bakhtin 1981). Authorial presence is not reduced but eliminated entirely: the text speaks, but no one speaks through it. Algorithmic discourse therefore exposes a condition that challenges longstanding assumptions that identity is intrinsic to language use in academic contexts.

Taken together, these contrasts indicate that authorial identity emerges only when writers are positioned as knowers who can be held accountable for what they claim. Human development reflects a movement from the assertion of personal existence to the pursuit of legitimate participation in knowledge-oriented communities. In stark contrast, algorithmic writing demonstrates that without social presence, experiential stake, and epistemic agency, there can be no scholarly identity. What appears as voice in AI output is merely a procedural simulation, revealing that academic persona is not a stylistic feature but a fundamentally human achievement.

6.4 *Synthesizing the Voice–emulation Continuum: Theoretical and Pedagogical Implications (RQ4)*

6.4.1. Theoretical Implications

Traditional dialogic theory equates dialogicity with reader-involvement, treating engagement markers as the defining sign of dialogic voice. This study demonstrates that dialogicity in L2 academic writing is not monolithic but emerges through distinct resource configurations. First-year texts enact an interpersonal dialogic stance centered on reader alignment, whereas fourth-year texts enact an epistemic dialogic stance grounded in stance control and guidance. The AI corpus reflects a flat, template-based form of dialogicity, with all dialogic features present at low to moderate levels (except hedging), indicating mechanical inclusion rather than context-driven distribution. These findings contribute a configurational model of dialogic positioning in which multiple dialogic orientations coexist, showing that academic dialogicity must be theorized as patterned resource coordination rather than engagement frequency alone.

Appraisal theory, as developed by Martin and White (2005), has portrayed evaluative development as a movement from immediate emotional reaction toward socially grounded and disciplinary assessment. This study refines that view by showing that affect does not disappear with increased proficiency; rather, its role changes within a broader evaluative system. Novice writers adopt a personal-affective orientation in which evaluation is anchored in subjective feelings. More advanced writers adopt a criteria-based orientation in which judgment and appreciation operate together to assess ideas, effectiveness, and behaviour from a more distanced stance. The AI corpus displays a neutralised orientation, with evaluative resources evenly present but without indicators of personal or disciplinary positioning. These three orientations demonstrate that evaluative meaning in academic writing is configurational and plural, not a linear reduction of affect. The contribution to appraisal scholarship is therefore a reconceptualisation of evaluative sophistication as a reorganisation of attitude resources rather than a simple shift away from affect.

Identity in academic writing has been theorized as a continuum between visible and backgrounded authorial presence (Ivanič, 1998; Hyland, 2002). The present analysis advances this view by demonstrating that identity orientations differentiate not in the amount of self-mention but in how writers locate themselves in relation to readers and knowledge claims. First-year texts enact a shared-author orientation in which the frequent use of both “I” and inclusive “we” positions knowledge within collective experience. Fourth-year writers adopt an individualized-author orientation, maintaining high self-mention while reducing inclusivity, thereby claiming greater epistemic responsibility. In contrast, the AI corpus exhibits a no-author orientation, suppressing both self-reference and shared positioning, resulting in content without a speaking subject. This improves current identity theory by reconceptualizing authorial presence as a plural space of positioning strategies—shared, individualized, and impersonal—rather than a linear movement toward impersonality.

Taken together, these findings are integrated within the proposed Voice–Emulation Continuum, which constitutes the principal theoretical contribution of this study. Rather than replacing established theories of authorial voice, stance, and writer identity, the continuum synthesizes them within a comparative framework that accommodates both human and AI-generated writing. Whereas existing models primarily explain how scholarly persona is constructed by human writers, the proposed continuum extends these perspectives by conceptualizing AI-generated discourse as a form of rhetorical emulation that reproduces linguistic patterns without socially situated authorship. In doing so, it provides a unified account of how dialogic positioning, evaluative practice, and identity projection vary across human developmental writing and algorithmic text generation, thereby extending current theories of scholarly persona to AI-mediated academic discourse.

6.4.2 Pedagogic Implications

Because first-year writers rely heavily on engagement and affect but show minimal boosters, hedges, appreciation, judgment, interactive metadiscourse, and virtually no citation anchoring, pedagogy can introduce these systematically as **absent academic functions**.

Instruction can include activities that add hedging and boosting to strengthen claim accountability and integrate interactive metadiscourse to structure reasoning steps that are currently unstated. Further, rewriting tasks can transform affective statements into value-oriented appreciation or behavior-oriented judgment supported by emerging evaluative criteria. Identity projection may be reinforced by linking self-mention to justified stance, correcting the assumption of collective knowledge. Citation-scaffolded evaluation tasks can establish early habits of grounding claims in external evidence, ensuring that writers learn to attribute responsibility and locate their voice within broader discourse. These actions reorganise dominant interpersonal resources while filling systematic gaps in academic practice.

For fourth-year writers, instructional focus can consolidate their strong authorial presence and stance control by expanding the underused features that support scholarly interaction. Their confident self-mention can be developed into a marker of epistemic responsibility through tasks that explicitly link “I” to reasoning and methodological decision-making. Because engagement with alternative perspectives is limited, revision activities can prompt writers to anticipate reader concerns and signal alignment or negotiation more visibly, for example by integrating rhetorical questions or concession structures when they add clarity to argumentative progression. Evaluative expression remains frequent but is not consistently connected to clear standards; writing tasks that require students to state the criteria underlying judgments of evidence or importance can make appraisal more accountable and less implicit. Finally, the absence of references to the research itself suggests value in genre-specific modelling that introduces identity markers such as pointing to the analysis, argument, or topic as the locus of credibility, allowing writers to balance personal authority with disciplinary positioning.

Algorithmic discourse should not function as a model for academic writing, as it systematically effaces authorial identity, neutralises evaluative force, and omits citation practices that establish accountability. Pedagogic intervention can instead position AI-generated texts as diagnostic contrasts that make rhetorical absences visible: learners examine where stance lacks motivation, where claims lack epistemic ownership, and where engagement with alternative perspectives or prior scholarship is missing. Through guided revision of these diagnostically selected excerpts, students can practice reinstating accountable self-reference, articulating the criteria behind evaluative acts, and situating claims intertextually. Such contrastive work reinforces the human dimensions of academic discourse—commitment to propositions, responsiveness to others, and the projection of a knowledgeable author—ensuring that students recognise the limitations of algorithmic text while strengthening the very features that AI does not perform.

7. Study Limitations and Further Research

While this study offers a theoretically grounded comparison of scholarly persona across novice, advanced, and AI-generated texts, several limitations must be acknowledged. The corpora are monomodal and confined to short written paragraphs; they exclude multimodal configurations—such as images, hyperlinks, captions, or layout cues—through which contemporary academic voice and stance are increasingly enacted. The single-topic prompt (“Social”) may not activate discipline-specific discursive repertoires or epistemic positioning. Additionally, findings reflect one linguistic and cultural cohort (Arabic-speaking L2 undergraduates), constraining generalizability to broader academic populations. The behavior of AI systems was examined through a limited set of models and prompt conditions, even though model training and dialogic responsiveness evolve rapidly. A further limitation concerns the scope of the writing samples analyzed. The corpora consisted of short expository paragraphs produced in response to a single writing task, which constrained the range of rhetorical choices available to both human writers and AI systems. Consequently, the observed patterns of dialogic positioning, evaluative practice, and identity projection should be interpreted within this specific genre and task context.

Future research should extend the Voice–Emulation Continuum to multimodal academic communication, analyzing how visual-verbal relations, platform affordances, and embodied semiotic choices contribute to voice, stance, and identity—especially in digitally mediated learning environments. It should also extend the analysis to longer academic texts and a wider variety of disciplinary genres and writing tasks to examine the robustness and generalizability of the proposed framework across different writing contexts. Cross-disciplinary and multi-genre corpora (e.g., research reports, presentations, annotated posters) could reveal whether algorithmic emulation differs by epistemic domain. Longitudinal tracking of human writers would clarify how persona matures over time and under feedback. Finally, computational analyses of model architectures and training data are needed to better understand the mechanisms underlying the rhetorical patterns observed in AI-generated texts, particularly their limited use of linguistic resources associated with epistemic accountability, ultimately informing pedagogies that preserve human authorship in AI-rich writing ecologies.

8. Conclusion

This study shows that scholarly persona is realized differently in novice human writing, advanced human writing, and algorithmic simulation when examined through dialogic positioning, evaluative practice, and identity projection. First-year writers display interpersonal dialogicity through frequent reader address; their appraisal is dominated by affective certainty as emotion substitutes for evidence; and identity is projected through dense autobiographical self-mention that positions the self as the central epistemic source. Fourth-year writers reorganize these resources toward disciplinary expectations: dialogicity shifts to stance-modulated control using hedging and textual guidance; evaluation foregrounds functional appreciation and cautious judgment linked to academic purpose; and identity becomes purposive and academically aligned, with self-reference signaling responsibility and participation in a learning community. AI-generated texts diverge fundamentally: dialogic markers appear as structurally patterned scaffolding without interactive investment; evaluation is neutralized into interchangeable and risk-free assertions lacking criteria; and identity is effectively erased, producing rhetorically fluent claims with no accountable author behind them. These contrasts establish the Voice–Emulation Continuum, demonstrating that human scholarly persona entails socially situated agency, consequential stance, and ownership of meaning, whereas

algorithmic writing produces a rhetorical simulation of scholarly voice with comparatively limited evidence of epistemic presence in the analyzed texts. Maintaining human authorship in AI-mediated contexts is therefore essential to preserve accountability in academic knowledge-making. These conclusions should be interpreted within the scope of the present study, which examined short argumentative texts produced by Arabic-speaking EFL university students and comparable AI-generated texts under controlled writing conditions. Further research across different genres, learner populations, and educational contexts is needed to determine the broader applicability of the proposed Voice–Emulation Continuum and its pedagogical implications.

Declaration of AI Use

Large language models (GPT-3.5, GPT-4, and Gemini) were used solely to generate the AI-produced texts that constituted the AI corpus analyzed in this study, as described in the Methodology. OpenAI-assisted automated extraction was used to identify predefined linguistic features during corpus analysis, after which all retrieved instances were manually reviewed in context by the authors. Apart from these research procedures, the manuscript was conceived, written, analyzed, interpreted, and finalized entirely by the authors, who assume full responsibility for its content, reference accuracy, and scholarly integrity.

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Author contributions

Dalia M. Hamed was responsible for data collection, while Shadiya Al-Hashmi was responsible for data preparation. Both authors contributed equally to the formal analysis and interpretation of the data, drafted the original manuscript, critically reviewed and revised the manuscript, approved the final version for publication, and share equal responsibility for the content and integrity of the work.

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Data sharing statement

No additional data are available.

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