The journal of El-Ryssala for studies and research in humanities

Volume : 11 / N° : 3/ 2026. pp 104-124

PISSN : 2543-3938 - EISSN : 2602-7771

A Discourse-Informed Approach to EAP Pedagogy for STEM fields: Integrating Register, Genre, and Rhetorical Moves

Amira NEDJAR

[1]University of Oran 2 – Mohamed Ben Ahmed (Algeria),

nedjar.amira@univ-oran2.dz

(https://orcid.org/0009-0005-0563-6731)

Received: 19/06/2026 **Accepted**: 20/08/2026

Abstract:

Register, genre, and rhetorical move theories have all contributed to English for Specific Purposes (ESP), particularly English for Science and Technology (EST). Despite emerging at different stages, these approaches should be viewed as complementary frameworks for understanding and teaching academic discourse. However, EAP instruction for STEM students often remains limited to language forms and isolated academic skills. In response, this paper explores the pedagogical value of an integrated discourse-informed approach to EAP at tertiary level. Based on existing research, it highlights the role of discourse awareness in academic English and suggests practical classroom applications that help students master register, genre, and rhetorical moves. The paper concludes that combining these three dimensions can offer a comprehensive framework for ESP materials design and support the development of students' academic literacy in scientific fields.

Keywords: *academic literacy; discourse awareness; English for Specific Purposes (ESP); genre analysis; register analysis; rhetorical moves*

INTRODUCTION

Through time, English for Academic Purpose (EAP) has shifted beyond the traditional teaching of isolated grammar rules, vocabulary lists, and general study skills towards more on contextualized understanding of academic communication (Hyland, 2006). Instead of treating academic English as a set of linguistic forms only, EAP research views it as socially situated practice through which knowledge is constructed, negotiated, and legitimized within discourse communities, (Hyland, 2006; 2009; Swales, 1990). This shift is particularly relevant in Science, Technology, Engineering, and Mathematics (STEM) fields, as students need more than basic English comprehension: they need to understand and participate in scientific discourse, whether in written or spoken form, happening within the scientific communities.

In EAP within English for Science and Technology (EST), language has specific recurring characteristics that make it unique and challenging from others. These linguistic, rhetorical, and multimodal features present in academic discourse are commonly found in scientific writing, such as technical terminology, dense noun phrases, nominalization, passive construction, cautious stance markers, and visual markers. These choices are not random; they serve specific purposes in scientific communication (Halliday & Martin, 1993; Hyland, 1998; Biber & Conrad, 2009). Students in biology, microbiology, engineering, medicine, and related fields are required to engage with genres such as research articles, lab reports, abstracts, posters, conference presentations, etc. However, these genres are not mere templates. In fact, they represent real communicative practices through which scientific procedures are described, evidenced, interpreted and positioned within a community (Swales, 1990, 2004; Bhatia, 1993). According to Miller (1984), genres are social actions rather than plain conventional textual forms. Viewing them this way explains why following a simple template is insufficient because learners must understand how genres function in the scientific community.

The complexity of academic discourse makes STEM EAP particularly challenging for students. These difficulties cannot be explained only by limited grammatical knowledge or insufficient vocabulary repertoire. A STEM student may understand individual scientific terms yet still fails to recognize how a research article introduction establishes a gap, how a methods section creates procedural objectivity, how a discussion section arguments findings cautiously, or how a lab report transforms experiments into accepted scientific knowledge. Thus, these difficulties can be attributed to a lack of discourse awareness: how language choices are tightly related and shaped by communicative purpose, audience expectations, specialty's academic conventions, and textural organization.

The rationale for adopting a discourse informed approach lies in the gap between linguistic knowledge and disciplinary discourse competence (Bradford, 2025). In many EAP and ESP classrooms, and despite advances in the fields and genre-based approaches, academic English teaching still relies sometimes on decontextualized grammar, general lexical lists, broad academic conventions, and linguistic accuracy. Such approaches have been criticized for neglecting the specialized genres, rhetorical practices and communicative tasks that characterize participation in specific academic communities (Hyland, 2004, 2006; Swales, 1990; Johns, 2002). Contemporary EAP scholars do emphasize academic literacy, discourse competence, and situated communicative practice

(Hyland, 2006; Bradford, 2025), but despite that, research in pedagogical methodology remained under researched in EAP which creates an imbalance between theory and practice (Bell, 2022) .

While grammar and vocabulary are still important and useful in academic English, they do not fully prepare learners for the real disciplinary challenge, which is understanding scientific texts as purposeful acts of communication. STEM students, particularly, need to know how to define concepts, describe processes, report procedures, present results, hedge claims, interpret data, and organize information according to the expectations of their discourse communities (Hyland, 2006; Swales, 1990; Parkinson, 2017.). Consequently, EAP pedagogy for STEM fields requires an approach that makes the hidden conventions of scientific discourse explicit, visible, and most importantly teachable (Hyland, 2007; Cheng, 2015; Parkinson, 2017).

However, in discourse informed pedagogy, register, genre, and move analysis are most pedagogically important and powerful when treated as complementary rather than separate perspectives (Stevani, 2025; Hyland, 2021; Cheng, 2021; 2025). Register analysis alone may identify frequent linguistic features, but it may not show how they contribute to the text's broader communicative purpose. Similarly, while genre analysis may reveal overall rhetorical structure, however, ESP oriented genre analysis also requires attention to the lexico-grammatical and metadiscoursal resource (Ötügen et al., 2021). By the same token, move analysis may clarify rhetorical functions, yet if not taught properly, it may not fully connect them to disciplinary contexts and language forms associated to those moves. Therefore, an integrated approach can help STEM learners understand academic discourse at multiple levels: the micro-level of linguistic choices, the meso-level of rhetorical moves, and the macro-level of genre organization.

Based on this rationale, this paper proposes a discourse-based approach to EAP pedagogy for STEM fields through the integration of register, genre, and rhetorical move analysis. It starts by presenting the conceptual foundations of register theory, genre theory, and rhetorical move analysis. It then discusses their complementarity and proposes an integrated pedagogical model for EAP instruction. At the end, the paper considers some materials design guidelines, classroom applications, assessment implications, and practical recommendations for ESP/EAP teachers based on existing theories.

1. Conceptual foundations of a discourse-informed EAP approach

1.1. Register theory in academic contexts (SFL perspective)

From a Systemic Functional Linguistics (SFL) perspective, language is understood as a system for making meaning, that is, social semiotic. Halliday insists that the one of the multifunctional purposes of language is to create and negotiate meaning with others. He also adds that it cannot be understood in isolation from society as it is woven into the fabric of social life. Moreover, he also deems it as a resource for meaning-making, not just a set of rules for forming correct sentences (Halliday, 1978; Halliday & Matthiessen, 2014). In other words, language does not exist in vacuum but is tightly related to the people involved in the communication, the purpose behind it, and the context in which it happens .

This view contrasts with other linguistic theories, notably Noam Chomsky's generative grammar, which often see language as a set of abstract rules in the mind, separated from social use. Their primary assumption about language is that it can be

studied without reference to context, only by focusing on what is grammatical or ungrammatical. This view places meaning and social purpose as secondary concerns. SFL, on the other hand, posits that knowing grammar without knowing how to use language in real life contexts is incomplete. Another key point highlighted by SFL is the language choice depending on social functions, taking into account purpose, audience, and context .

This language change that is tightly related to different situations is deemed "register" (Halliday et al. 1964). Within this framework, Halliday and his colleagues define register through three interrelated variables: field, tenor, and mode. Field refers to the topic, the subject matter or social activity enacted (what is happening and what kind of activity is involved). Tenor concerns the relationships between the participants (their roles, status, familiarity, and attitudes) (Halliday et al. 1964). Modes relate to the role and channel of language in the interaction, such as whether it is spoken or written, planned or spontaneous, and whether the language is constitutive of the activity or just ancillary (Halliday and Hasan 1985). These three concepts are interconnected and simultaneously influence any text or interaction. Thus, analyzing any situation through these lenses can systematically explain and predict the linguistic patterns that will appear. They are also operational proof that language is not random but is a resource strategically adapted to the social situation .

Academic and specialized registers differ markedly from general English because they constitute a systemic configuration of lexico-grammatical choices directly motivated by the unique social context of academia, rather than a mere accumulation of advanced and complex vocabulary. From an SFL perspective, these registers are shaped by the interaction of field, tenor, and style (now established as 'mode') with each having an influence on linguistic form (Halliday, 1989). In academic settings, the field includes disciplinary knowledge construction and research reporting which has an ideational impact on the language choices. Academic texts are concerned with abstract concepts, theories, and processes rather than concrete events, which leads to a preference for technical vocabulary, abstraction and nominalization. Nominalization allows academics to construe processes and qualities as noun phrases to increase lexical density and enable logical relations between complex ideas to be expressed compactly within these phrases (Halliday , 1978; Halliday & Hasan, 1985). Moreover, corpus-based research shows that written academic discourse packs information into fewer clauses through dense noun groups and morphologically complex words which are often formed via derivational affixation (analysis, reconsideration, effectiveness, etc.). Such complexity of words does not rise from stylistic variation but from semantic consideration within single lexical items which is a defining feature of specialized discourse (Biber et al., 1999; Biber & Gray, 2016) .

Similarly, the tenor further shapes the lexico-grammatical profile pf academic communication. Since academic writers typically address a disciplinary community of peers rather than known interlocutors, the social relation is relatively impersonal. Compared to face-to-face interaction, writer-reader relationship in published academic prose is less immediate and may sometimes have restrained authorial presence where the emphasis is placed on knowledge claims rather than the individual writer. Linguistically, this is realized through cautious stance marking including modal verbs, hedging expressions, and evaluative lexico-grammatical patterns that allow writers to calibrate degrees of commitment and tentativeness. Examples include "may suggest", "it is likely

that…". This is further highlighted in studies of academic discourse which show and further add that such stance expressions are systemic and discipline-sensitive (Biber & Barbieri, 2007); they enact the social role of the cautious but also credible scholar (Hyland, 2008a). In addition, tenor of academic discourse requires a high degree of lexical formality to maintain social distance and disciplinary authority, compared to general English. This is due to how academic discourse avoids colloquial and slang expressions in favor of medium to high formality vocabulary which are often of Greek or Latin origin (Goatly, 2000; Imani & Habil, 2014). This controlled lexical choice functions in two levels: epistemically, by enhancing precision, and socially, by signaling membership in a specialized discourse community (Halliday & Martin, 1993). This allows academic English to be differentiated from general English where informality and interpersonal engagement are more prominent in general.

The mode of academic communication, on the other hand, is predominantly written, planned, monologic and constitutive of meaning-making, especially for prose. Language in this case does not merely accompany activity; it serves as a tool to build arguments and construct knowledge. This explains the prevalence of complex noun phrases, passive constructions, and explicit logical organization. Passive in this context is frequently used to depersonalize the procedures especially in research reporting (Martìnez, 2001), while cohesive devices and discourse organizers contribute to clarity and coherence across extended texts. Lexical bundles such as "the results of the", "in the case of", or "it is important to" play an important role in structuring arguments and guiding readers through macro-structures (Biber, Conrad, & Cortes, 2004; Biber & Barbieri, 2007) and could serve well in IMRAD framework. Therefore, understanding academic language as a social semiotic and a specialized register moves teaching language as rules to apprenticing learners to a discourse community. Therefore, by taking register theory (Field, Tenor, and Mode) into consideration, teaching isolated lists of 'academic words' or 'grammar rules' becomes insufficient and misleading as it strips language of its social purpose. Moreover, learners need explicit support in recognizing how disciplinary meanings are constructed through lexico-grammatical features such as nominalization, past and present tense use, stance modulation, etc. From a pedagogical standpoint, this entails raising learners' register awareness by linking linguistic forms to their communicative purposes in authentic academic genres, because effective EAP teaching is about equipping learners with analytical tools (awareness) and guided practices and tasks so they can decode and eventually reproduce the language of their respective discourse community (Hyland, 2007; Cheng, 2015).

1.2. Genre theory and academic communication

In genre-oriented ESP, genres are not simply formats constituting of static template with rigid rules but social actions; they are recurring linguistic practices that have evolved within specific academic communities to fulfil shared purposes (Miller, 1984; Swales, 1990). Swales defines genre as a class of communicative events whose members share communicative purposes (1990). This broadens the scope beyond just written texts as it includes oral presentations, lab reports, conference posters, etc., that is, events where communication within the discipline occurs but are also recognized as serving particular communicative purpose. For Swales, shared purpose is what fundamentally shapes a genre's characteristic structure which explains why each one works differently from the

other (Swales, 1990) .

Since academic work relies on multiple recurring tasks, genres tend to be functionally linked, rather than appear in isolation (Swales, 2004). A scientific scholar's academic life involves a cycle of activities, such as conducting research, analysing data, presenting the findings, teaching, etc. with each of these tasks having a repertoire of genres. However, according to Swales, genres exist in related groupings (constellations) (Swales, 2004), which reflects how discourse communities distribute knowledge-making across interconnected texts. This systemic view directly informs EAP teaching as attention is encouraged on high-stakes academic and professional genres such as research articles, essays, reports, etc. Since these genres mediate learners' participation in academic discourse communities, genre analysis helps make their rhetorical organization and communicative purposes explicit and teachable as they are essential for academic success (Swales, 1990; Bhatia, 1993, Hyland, 2007; Cheng, 2015) .

Alongside ESP genre analysis, the new rhetorical genre studies (RGS) developed a more contextual and action-oriented philosophy of genre. Miller (1984)'s article "Genre as Social Action", cornerstone of RGS, states that genres are best understood through what they do in social life (how they enable action) rather than through definitive classification. For example, A grant proposal does the work of persuasion, whereas a contract formalizes an agreement and establishes obligations, which means that genres are tools for accomplishing shared social objectives. Therefore, genres are dynamic (evolving over time) (Miller, 1984), and responsive to changing contexts (e.g. they can adapt to new technologies, new social needs, and new power dynamics) (Devitt, 1993). In academic context, disciplinary knowledge is shaped through characteristic texts shared in communities (Bazerman, 1988). This means that genres are directly connected to epistemology as scholars construct and legitimize what counts as knowledge within those genres through conventional ways (presenting evidence, contructing claims, evaluating legitimacy of information, etc.). The Introduction–Method–Results–Discussion (IMRAD) article, for instance, institutionalizes a specific evidence-based model of scientific knowledge making. In brief, rhetorical situation is an important consideration when it comes to studying genre. Scholars must take into account the person writing and their role, the audience of the genre and their expectations, the context, and the exigence of the genre. Every instance of genre involves a unique negotiation between historical conventions and the specific demands of its rhetorical situation (Devitt, 1993).

Consequently, in EAP context, it is imperative for students to know the relationship between genre and register as it avoids confusion and fuzzy EAP instruction. To accomplish this, instruction should be explicit in showcasing how genre is directly linked to register and the way it shapes the ways academic texts are interpreted and produced. Through the evolution of ESP, it has been shown that grammar and vocabulary alone are not enough to unlock true academic literacy (Dudley-Evans & St John, 1998; Bhatia, 1997). Thus, instructors need to address the cognitive processes behind academic tasks, such as note-taking, and critical reading (Dudley-Evans & St. John, 1998) to remedy this conundrum, and genre-based pedagogy seems to support this by making purpose, audience expectations, and conventional patterns visible to learners. From an ESP perspective, learners may already have everyday communicative competence, but still need to develop understanding of specialist code, familiarity with specialist genres (rhetorical forms and

content), sensitivity to contexts and conventions, and the ability to manipulate genres for new situations (Bhatia, 1997). In the same vein, Johns advocates a concept called "socio-literate approach" in which students draw on prior genre experience to interpret and produce academic texts (Johns, 1997) to align genre instruction with real academic communication demands rather than treating texts as decontextualized language practice. This helps initiating learners into the ways of knowing, thinking, and communicating of a disciplinary community.

1.3. Rhetorical-move analysis

In the field of discourse analysis and ESP, moves and steps are functional and purpose-driven rhetorical actions. A move is a part of a text that performs a specific job in advancing the writer's overall communicative goal within a genre, while the steps represent a smaller and more specific strategies used to complete a move (Swales, 1990; Swales, 2004). It is important to note that moves are functional and not formal: they are not tied to fixed grammatical structures; they might be a single sentence, a clause, a whole paragraph or even a set of dispersed sentences that together achieve one rhetorical function (Swales, 2004). In ESP, move-step analysis is an essential tool for uncovering recurring rhetorical patterns which members of a discourse community organize texts and realize communicative purposes. Moreno and Swales (2018) highlight the need to strengthen move analysis methodology by connecting rhetorical functions with their linguistic realizations. Furthermore, Swales' earlier work shows how moves can signal relevance, establish novelty, and position a study within a research territory (Swales, 1990, 2004; Moreno & Swales, 2018). In other words, rhetorical move analysis creates a bridge between linguistic form and social purpose (the goal of the text within its community and genre) .

Swales' Create-A-Research-Space (CARS) model is one of the most influential applications of move analysis in academic writing research. Its development initially started through the analysis of RA introductions and described four recurring and sequential rhetorical moves, which were revised to three: establishing a research territory, establishing a niche, and occupying that niche (Swales, 1990). Each of these moves have a communicative purpose, such as showing the importance and relevance of the research, identifying a gap or a problem in the existing literature, and presenting the new research as a response to that gap. The CARS model became influential because it showed that introductions follow a deep and recurrent structure that helps discourse communities produce a proper RA introduction (Swales, 1990). This model also gives teachers and students a heuristic to understand the strategic and goal-oriented rhetorical nature of introductions, specifically designed to persuade peers of the work's relevance and necessity .

Another framework that explains rhetorical move patterns is the IMRAD structure which represents a conventional macro-organizational pattern in experimental and empirical academic writing, especially in sciences and social sciences. This structure defines broad textual sections with each one internally structured through recurring move patterns that serve specific communicative purposes (Swales, 1990). Corpus and discourse-based research demonstrate that introduction sections prioritize contextualization and justification, method sections focus on procedural description, results sections tend to report and describe findings, whereas discussion sections reintroduce evaluation,

interpretation, and disciplinary positioning (Biber & Jones, 2005). However, IMRAD should not be viewed as a rigid template as its use and strictness vary depending on the discipline (Lin & Evans, 2012) .

What is worth noting is that academic writing is governed by recurrent rhetorical expectations that reflect the core values and contribute to epistemology of a discipline. Academic writers are expected to not only to present information but to do so in rhetorically recognizable ways, such as situating research within existing knowledge, describing and justifying (if necessary) methodological choices, or evaluating results (Swales, 1990; Hyland, 2008b). In Move analysis, research shows that certain moves become conventional within genres while others remain optional depending on disciplinary and contextual factors (Kanoksilapatham, 2005). In ESP/EAP contexts, novice writers often face difficulties stemming from a lack of awareness of these expectations rather than from grammatical limitations alone (Bhatia, 1997). Therefore, making move structures explicit can help support learners' access to disciplinary discourse easily as it clarifies what counts as appropriate rhetorical actions in academic texts.

Another foundational concept to genre-based discourse analysis is the relationship between rhetorical moves and communicative purpose. According to Swales (1990), moves are defined precisely by the communicative purposes they fulfill, and genres themselves are distinguished by their overarching communicative goals (1990). In other words, genres are unique to their goal, not just their format as two texts might look similar on the surface but belong to different genres if their aims differ. Moreover, every move helps build meaning in a small way (bricks) that contribute to pushing the text forward toward its main goal (structure). Therefore, genre structure is not a fixed layout but is instead developed from repeated ways people from discourse communities solve common communicative challenges which over time create predictable structure in genres (Miller, 1984). Showing this relationship to EAP learners is paramount because it helps them see how word choices, sentence structures, and other language features are driven by the text's purpose, who it is destined for (audience), and the field of study (disciplinary context). It also makes clear that academic writing is not simply presenting information; rather, it is a deliberate social action used to engage readers, establish credibility, and achieve specific goals within a given academic community (Miller, 1984; Hyland, 2005).

2. Complementarity of register, genre, and rhetorical moves

2.1. Layers of Discourse

As the development of ESP testifies, register analysis, genre analysis, and move analysis each shine a light on different aspects of discourse structure and function. However, if taken into consideration separately, they provide a partial insight into the whole bigger and complex picture of academic discourse. While the registers focus on the relationship between the situational context and the linguistic features used genre focuses on the overall structure and stages of a complex text and how it achieves a socially recognized goal (Biber & Conrad, 2009; Biber, Connor, & Upton, 2007). Moves, on the other hand, look at the specific rhetorical steps a writer takes to achieve the goals of a genre stage (Swales, 1990; 2004). The three analyses are complementary :

- Micro: lexicogrammatical and metadiscourse realizations
- Meso: rhetorical moves and steps

- Macro: genre organization, purposes, audience, and context

If register analysis is used in isolation, it fails to give insight on how recurrent linguistic features are strategically distributed across sequential rhetorical functions to build or fulfil a communicative purpose (e.g build an argument). As a result, learners will end up with long lists of frequent features yet little idea of how to use them purposefully (Basturkmen, 2024). Similarly, if genres are reduced to schematic stages if textual templates, students might have a clear understanding of the macro structural organization but lack explicit guidance on the linguistic resources they need to realize the rhetorical stages effectively (Cheng, 2021). Likewise, move analysis can highlight rhetorical functions but may detach these functions from both the social context of genres and the linguistic resources (register) that instantiate them.

2.2. Benefits of an integrated approach

Each analysis constitutes an important part of EAP teaching. An integrated approach of the three analyses can make EAP teaching more comprehensive and pedagogically robust. It shifts from rote memorization of rules to understanding the reason behind them and the interconnectedness of all components (register, genre, moves). Thus, it demystifies the randomness of academic English by making it functional (Biber & Conrad, 2009; Hyland, 2009), which has the potential of improving learning outcomes .

Moreover, the integrated approach may help students read more strategically by spotting organization (genre stages), logical flow (how arguments unfold via moves), and signals (register features) which can lead to strategic reading: predicting what's next, skimming, and grasping meaning without getting lost in dense specialized texts (Deng et al., 2024) .

For writing, integration gives students a roadmap along with the tools to produce structured academic writing, which is vital in specialized settings. It bridges the gap between the three components by not only teaching what to write but also how and why (Cheng, 2015; 2021) .

The goal is to empower learners to engage actively in their fields, not just copy templates. EAP is not just about passing exams; it is about joining academic discourse communities (Hyland, 2009; Swales, 1990). On this basis, this integrated approach can be proposed to prioritize holistic discourse competence over fragmented skills and emphasizes rhetorical awareness and contextualized language use

3. Towards an integrated discourse-based pedagogical model

3.1. Core principles

One of the core principles of integrated discourse-based pedagogy is the necessity for explicit instruction as novice academic writers are not expected to understand and apply complex features of academic writing by reading examples only. These disciplinary conventions are often not obvious and require direct and clear instruction. Genre-based and EAP research demonstrate that students learn more effectively when teachers point out the hidden rules within disciplinary genres (Hyland, 2007; 2009). This approach gives learners conceptual tools and empowers them to make their own informed choices in academic writing, rather than imitating a template. Albeit beneficial, this approach needs to be further reinforced by other steps .

Teaching and learning cycle is an important principle to consider as it helps explain how explicit instruction is put into practice. This pedagogical cycle is constituted of four stages that provide support for learners and reinforce their learning. This cycle starts with modelling in which the teacher presents students with model texts of the genre which then gets deconstructed to understand how it functions. This deconstruction phase is the essence of explicit instruction. Following is the guided practice in which students begin to write new texts, with the support of the teacher and peers in a joint construction. Once learners develop greater control in writing, the teacher gradually withdraws scaffolding to independently write their own genre on a new topic and apply the skills and knowledge they have gained in the previous stages (Martin & Rose, 2005; 2012) .

Another core principle is teaching language through discourse functions, rather than through traditional and decontextualized grammar rules. Studies in register and discourse show that linguistic features are functional, meaning that some structures are recurrent in specific types of writing because they have a discourse function which makes them effective tools for that situation. These features are also dependent on what the writer/speaker wants to achieve (communicative purposes) and situational contexts (Biber & Conrad, 2009). In the context of EST, this means that lessons revolve around functions like defining terms, hedging, reporting results, etc. This helps learners understand the connection between form, meaning and use .

These three principles together form a cohesive teaching model that can be used as a basis for integrated discourse instruction. The syllabus follows a sequence that can be adapted by EAP teachers depending on the needs and learners' profiles.

3.2. Pedagogical sequence

In order to proceed with a structured approach to teaching discourse-based EAP, the following model is proposed which integrates insights from genre theory, register analysis, and ESP to help learners master discipline specific communication .

The sequence begins by introducing the genre to the learners. The instructor should highlight that genre are not static text templates by emphasizing the importance of communicative purpose, intended audience, and social function of the latter within a discipline (Swales, 1990; Miller, 1984). In EAP teaching context, this means that students not only learn about the structure of the genre, but they also actively investigate how that structure enacts a specific social action (Hyland, 2007; Cheng, 2015). This explicit teaching may help learners view academic genre writing as purposeful social and rhetorical communications rather than a set of arbitrary rules .

After establishing the genre's social purpose, the EAP instructor moves to register features which ground the abstract notion of genre in concrete language. In EAP classroom, the teacher would not simply tell students to use nominalization but would also show how, for example, in biology, research articles use such features to compress complex processes to build technical and abstract knowledge (Halliday & Martin, 1993). Similarly, stance markers (likely, suggests, etc.) are taught in a way that reveals how writers evaluate evidence (Hyland, 1996). This helps learners move from producing generic adequate sentences to knowing how to do linguistically informed discipline-specific choices .

Following the genre structure and linguistic features, the next stage introduces rhetorical moves and steps, where learners identify how texts achieve local communicative goals within each section of the genre. This phase is based on Swales' Move analysis which supports the students' development of rhetorical awareness as they are shown through methodical teaching how writers structure arguments, establish credibility, and guide readers through claims and evidence within genre (Swales, 1990, 2004; Cheng, 2015). In EAP setting, learners would not only analyze the words used but also why a writer chooses a concession move at a specific point. This phase is paramount in helping learners link linguistic realization (grammar and vocabulary) to rhetorical reasoning (strategic purpose behind a choice(Moreno & Swales, 2018) .

The following stage constitutes in comparing novice and expert texts. This component is considered critical as learners are put in a situation where they can contrast their own or peer produced texts with published expert writing. This contrastive analysis may allow students to observe differences in discourse features (rhetorical control, linguistic density, genre conformity, etc.). This can also foster metadiscursive awareness, which is the ability to think about and reflect on one's discourse choices, organize texts, express stance, engage readers, and respond to disciplinary expectations. Such awareness may help learners develop greater control of the rhetorical and linguistic standards of their academic specialty (Hyland, 2005, 2009; Gruber & Huemer, 2008). However, it must be noted that this stage is not about finding mistakes in learners' production but about understanding how expert writers achieve effects that novices do not yet control.

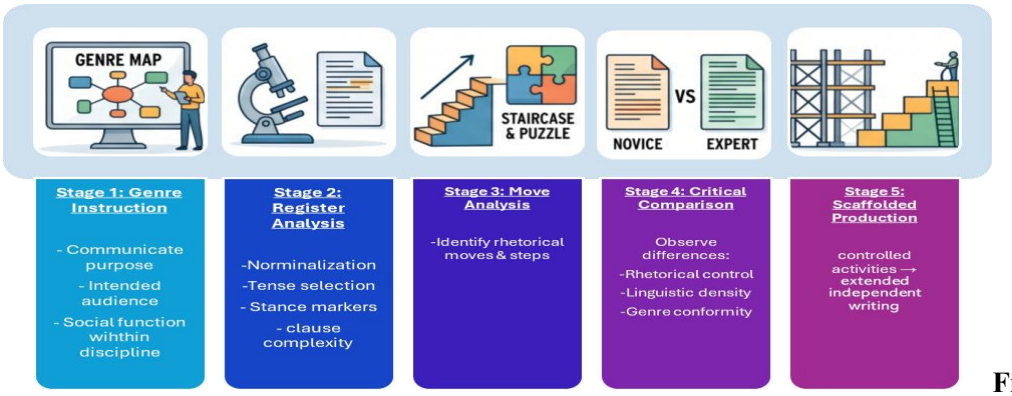


Figure (1): Pedagogical sequence for Integrated Genre, Register, and Move Development

The final stage of the teachibility model moves from analysis to production through scaffolded tasks. It begins with controlled activities such as completing sentence frames or rearranging moves, to extended independent production. The key point is that support from the teacher is not withdrawn abruptly: it is sustained and systematic.

3.3. Materials design guidelines

While the pedagogical sequence describes how to teach the model, the materials design guidelines describe what texts and tools teachers should select and create to make

the latter effective. Following ESP principles, materials design should align with a thorough needs analysis (Flowerdew, 2012). In discourse-based STEM EAP pedagogy, the instructional model requires principled selection of authentic texts that reflect real disciplinary practices. These materials expose learners to linguistic, rhetorical, and structural complexity of academic discourse as it is produced in reality which is a key requirement for developing disciplinary discourse literacy (Hyland, 2009; Swales, 1990) .

Research in EAP lecture listening materials shows that many commercial textbooks fail to provide authenticity. For STEM fields, including biology, lectures that are delivered naturally include hesitations, false starts, repetition, redundancies, and interpersonal discourse; however, those academic listening textbooks often omitted those details (Flowerdew & Miller, 1997; Deroey, 2018). Likewise, Deroey (2018)'s analysis of lecture listening coursebooks highlights how these published materials frequently provide unrealistic models of lecture discourse, such as slow delivery, overly explicit language, as well as short and scripted texts which can hinder learners' preparation for the processing demands of authentic academic listening and speaking. In STEM EAP materials, representativeness and authenticity are important criteria that are considered in relation to specific target genre. Written materials (lab reports, RAs), for example, should reflect their authentic rhetorical and linguistic conventions, whereas listening and speaking materials should expose learners to natural academic speech features. Therefore, discourse-informed EAP materials should respect these criteria.

Materials design should also balance between genre input and not focus on only one genre. For example, even if textbooks provide accessible explanations and clarity, RAs exemplify more advanced disciplinary discourse and rhetorical sophistication. In this case, combining both allows learners to move from simplified representations toward expert academic practices. However, since research in EAP materials shows that in some cases textbooks treat some modalities inadequately (Hyland, 1994), teachers and material designers should be cautious in their selection and must supplement additional authentic materials along with corpus data to avoid confusion and teach how scientists express each modality clearly instead of relying on one genre .

Coupled with needs analysis, the integration of corpus-based findings can further strengthen ESP materials by grounding instruction in empirical evidence of lexico - grammatical and rhetorical patterning. Although not all target genres may not be supported by compiled corpora, it is still possible to compile corpora of full-length RAs, analyze them using corpus linguistics and move analysis, and convert the findings into instructional materials. However, this requires a team of researchers and material designers that include both ESP specialists and experts in the field to ensure disciplinary accuracy (Stoller & Robinson, 2013; 2014) .

Another critical insight from materials design in that piloting is necessary in ELT, including ESP. However, due to industry and administrative constraints, this phase is often absent (Amrani, 2011; Stoller & Robinson, 2014). For STEM EAP, local materials writers should therefore build in multiple piloting cycles, even on a small scale, before full deployment.

Due to the multimodal nature of STEM communication, discourse-based materials should also integrate this multimodality and diversify discipline-specific resources to reflect the real-life discourse. Biology students must navigate visual, textual, and digital

modes alongside traditional written genres. This means that materials should include figures, graphs, captions, protocols, and even mini corpus search tasks (Airey & Linder, 2009). For example, Dong and Lu (2020) familiarized engineering students with Swales' Create A Research Space (CARS) model by having them search a corpus of engineering journal articles for specific moves and steps, identify associated language, and then write their own article introductions (Dong & Lu, 2020). This study shows that discourse based and corpus integrated materials can be effective for STEM EAP when designed and consumed as intended .

Finally, materials design must address the challenge of overgeneralized rules found in some textbooks when it comes to EAP communication. For example, the use of personal pronouns in scientific genre is a highly debated concept. Research in corpus data has shown that the absolute ban of personal pronoun use to be overgeneralized (Harwood, 2005; 2024). Instead of imposing a blanket ban, STEM EAP materials should teach reflexive use of grammatical units, including pronouns, where appropriate. This type of instruction falls under the umbrella of "critical pragmatism" which helps learners develop their own pragmatic awareness (Harwood & Hadley, 2004).

4. Practical classroom application

After conceiving the pedagogical model and designing the materials design guidelines, the latter can be translated into practical classroom applications with concrete and actionable activities. Rather than teaching skills in separate silos, activities are ideally designed to help learners visualize the interaction between register features, rhetorical moves, and genre conventions.

4.1. Reading activities

a. Register identification tasks

Spotting registers tasks can help reading focused instruction. Students are guided to identify recurring linguistic features such as passive voice, modal verbs, complex noun phrases, and stance markers. These features represent an important part of register teaching that showcases their functional nature which can be adapted to academic purposes such as objectivity, caution, and informational density (Biber & Conrad, 2009). In EAP classroom, this means that instructors move beyond traditional reading comprehension questions ("what is the main idea of the text?") to functional language awareness tasks. For example, while reading a lab report, students might be asked to highlight every passive verb in the Methods section and then discuss why the passive is frequent there. In the same manner, they might identify stance markers in the Discussion section and infer the author's degree of certainty. These activities do not only operationalize the register analysis stage of the pedagogical sequence, but they also transform abstract linguistic concepts into observable classroom practice. As important for reading, this can also be applied to academic listening as well.

b. Move mapping tasks

These are activities that focus on rhetorical moves, particularly in RA introductions, though applicable to any genre. Students learn to map moves such as 'establishing a territory', 'identifying a gap', and 'presenting the current study' based on Swales' (1990)

move analysis. This can help improve learners' ability to anticipate content and interpret authorial intent.

In practice, the ESP instructor might provide a RA introduction with the moves unlabelled, and students work in pairs to divide the text into segments and assign each part with its respective move label. They then compare their maps and discuss ambiguous cases such as when a single sentence accomplishes two moves at once. These activities develop rhetorical reading skills where students do not just read for information but for strategic argument structure. This can also be applied to listening where students map the moves in a conference presentation's opening or speaking in which students plan their own spoken introductions using a move structure derived from authentic examples of the relevant genre.

c. Genre comparison tasks

These tasks involve comparing different genre such as an undergraduate essay, a RA, and a textbook chapter on a similar topic. These tasks help students to discover that texts differ not only in form but in social function and make these differences explicit and exploitable in teaching (Hyland, 2008, 2009). In the classroom, students might read texts about a specific topic and analyse how each genre's communicative purpose and audience shape its organization, sentence length, use of citations, tone, and multimodality (graphs vs. no graphs). For example, students might notice that the textbook uses clearer headings and definitions, the RA uses dense noun phrases and stance markers, while policy piece uses persuasive evaluative language. This comparative awareness is crucial for EAP learners who must navigate multiple genres within disciplines.

4.2. Writing activities

a. Move-based writing frames

Writing tasks based on moves address the challenge of producing rhetorically organized academic texts when learners are novices. They provide support by outlining the expected rhetorical moves of a genre while leaving room for students to choose their own linguistic realisations. In the classroom, students divide moves into distinct yet structured frames. They fill in the content to help them grasp the genre's logic. Once learners internalize the move structure, they can gradually abandon the frame and write independently. This activity can also be equally applied to spoken genres, like conference presentation or a seminar discussion. As Swales (1990) argued, making moves explicit demystifies genre conventions for L2 academic writers.

b. Summarizing

Conventionally, summarization asks students to reduce a text by length. In this context, summarization when a text is genre-constrained asks students to preserve the key rhetorical moves and disciplinary functions of the original text. For example, instead of condensing a RA, learners might be asked to write a 150 word summary that explicitly retains the gap of the study (move 1), the main methodological approach (move 2), and the key finding and its implications (move 3). In this case, students must decide what is rhetorically essential rather than merely cutting sentences to make the text shorter. This way, learners are trained to read like writers and attend to how information is prioritized in a discipline. It can also

be transformed into academic speaking as students might deliver a 60 second elevator summary of a paper that preserves its core rhetorical structure. According to Hyland (2009), such tasks develop metadiscursive awareness which is the ability to reflect on and manipulate discourse for communicative purpose.

c. Rewriting General English texts into academic register

Register transformation consists of taking a text written in conversational, narrative, or general English and rewriting it into an academic register. This transformation involves systematic changes in grammar, lexical density, and stance expression (Biber & Conrad, 2009). In practice, a teacher might provide a short and informal paragraph about a scientific finding and ask students to rewrite it in academic style appropriate for a lab report or a RA, for example. In this case, students make systematic changes such as replacing first person pronouns with passives or nominalizations if necessary, increasing lexical density and adjusting stance (hedging). This activity is valuable for ESP learners because it makes visible the specific linguistic features that distinguish academic registers from everyday language. It can also work for spoken academic registers as students could rewrite a casual explanation of a concept into a formal lecture explanation, all while respecting the genre's conventions .

d. Scaffolded IMRaD report production

This activity addresses extended writing, and more specifically the production of a complete IMRAD report which is the standard structure for empirical research articles in many STEM disciplines. Scaffolding is important in this activity as the teacher sequences the production into stages. For example, in 'Week 1', students write only the methods section using a move-based writing frame. In 'Week 2', learners move to the results section with guidance on verb tense for reporting and visual representation of data. The next week deals with the introduction based on Swales' CARS moves. Each week revolves around a specific stage or move that could help students by reducing the cognitive loads and allowing targeted instruction on each section's register and move structure.

4.3. Speaking and listening activity

Even if much of EAP instruction has traditionally focused on reading and writing, the speaking and listening is still critical (Rowley-Jolivet & Carter-Thomas, 2005). Discourse based pedagogy applies equally to spoken communication including presentations, seminars, and data explanations. Research in EAP also emphasize that spoken academic discourse is genre governed and rhetorically structured as well, not merely spontaneous speech (Hyland, 2009) .

Speaking and listening should be explicitly taught through two complementary instructional foci: productive speaking (using disciplinary register) and receptive listening (recognizing rhetorical moves in oral discourse).

a. Productive speaking

This application focuses on helping learners produce spoken academic discourse that reflects authentic disciplinary practices. Instructors can explicitly focus on using disciplinary register in speech including appropriate stance, technical vocabulary and

clause structures adapted to spoken academic contexts. Even though spoken academic discourse differs from writing, it retains discipline specific linguistic patterns that learners must acquire intentionally (Biber & Conrad, 2009) .

This means that EAP teachers cannot assume that students who can write academic prose can automatically speak it appropriately. Spoken genres have their own characteristics. A classroom activity might involve students recording themselves explaining a graph or summarizing a study, then transcribing and analysing their own speech for register features. They would compare their spoken version to a written research article description of similar data to notice differences in clause length, hedging, and discourse organization. This comparison helps build intentional control over spoken academic register

b. Receptive Listening

These addresses listening comprehension through the lens of rhetorical and discourse-signalling cues recognition. Such listening activities can help further target recognition of these cues in oral discourse, like signalling purpose, outlining structure, or interpreting results. This helps learners follow complex academic talk and prepare them to participate more effectively in public academic presentations, viva voce, or conferences .

Traditional EAP teaching often focuses on understanding content. However, a discourse-based approach adds a layer of rhetorical listening where students learn to recognize not just what the speaker says but what rhetorical function each utterance performs in the overall genre. In the classroom, students might listen to a recorded conference presentation or seminar discussion and use a cue-mapping worksheet (similar to reading based move mapping task) to identify each one as it occurs. They would note not only the content but also the linguistic signals that mark boundaries. Such recognition training may improve learners' ability to follow and retain information from academic lectures and discussions. Once they can recognize discourse cues receptively, they are better prepared to produce them in their own speaking .

However, it must be noted that a discourse-based approach does not treat speaking and listening separately. Rather, the two are integrated in a way where listening informs speaking and speaking reinforces listening. Scaffolded production in this case applies to speech as well.

4.4. Assessment implications

Instructional methods and materials within a discourse-based framework are not complete without an assessment. The implications of this assessment address how to evaluate student learning. In traditional EAP assessment, instructors may represent academic performance too narrowly. However, a discourse-based instruction requires a fundamental assessment design which must align with the same principles that guide instruction: genre awareness, register control, and rhetorical move competence. Therefore, targeting discourse competence in the assessment is important, rather than isolated language forms. Instructors can do this through rubrics grounded in discourse-based criteria .

In EAP, the teacher evaluates a student's academic text or oral presentation, the primary criteria should not be placed on error counting only but rather if the student

control the register features expected for the genre and if the student successfully executed the required rhetorical moves .

In the same manner, rubrics should align with assessment criteria with instructional goals. In other words, what students are taught should be exactly what they are assessed on. If teaching focuses on identifying and producing rhetorical moves, then assessment must explicitly reward successful move execution. This transparency helps students understand what academic success truly means which is: not producing flawless but rhetorically naïve prose but producing rhetorically effective discourse even with minor linguistic imperfections. Table (1) can serve as an example for a discourse-based assessment rubric.

Table (1) : Traditional vs. Discourse-based Assessment Criteria

Traditional criterion	Discourse-based criterion
No sentence fragments	Knows how to establish a territory (Move 1) using appropriate tense and citation patterns
Correct subject-verb agreement	Identifies a research gap (Move 2) with appropriate stance markers (however, little is known, etc.)
Uses transition words	Presents the current study (Move 3) using first-person or passive voice appropriately for the discipline
Avoids repetition	Controls register features (nominalization, lexical density, hedging) appropriate to the genre

After establishing the rubrics, the instructor must bear in mind that it is crucial for the assessment to target discourse competence rather than isolated language forms. In a discourse-based perspective, language forms are not ends in themselves but resources that writers and speakers use to achieve specific rhetorical goals. Therefore, the assessment must capture whether students can choose the right resource for the right purpose in the right context.

In contemporary EAP theory, becoming proficient in academic English means learning to act as a member of a disciplinary community (to write, speak, read, and listen) in ways that community recognizes as competent. Consequently, error free production could be neither sufficient nor entirely necessary.

This implies that assessment design should include analytic rubrics with discourse criteria, have holistic tasks over discrete items, consider portfolio assessment over time tests to capture growth, and self / peer assessment using the rubrics criteria to develop metadiscursive awareness

5. Recommendations for ESP/EAP teachers

While the pedagogical framework is a fundamental skeleton for discourse-based teaching, this approach still requires careful pedagogical considerations. It demands thoughtful adaptation to local contexts, students' needs, and disciplinary demands. Below is a list of recommendations for ESP/EAP practitioners grounded in theoretical foundations :

1- Prioritize and sequence target genres: teachers should resist the temptation to cover multiple genres at once. Instead, they are advised to identify the most relevant genres for learners and introduce them through principled sequence. They can then expand gradually as learners develop greater familiarity with disciplinary discourse. Teaching different genres simultaneously would overwhelm learners due to the complex social nature of each

genre which involves distinctive rhetorical structures, communicative purposes, and linguistic conventions (Hyland, 2007)

2- Use small yet manageable text extracts: this addresses the cognitive demands of reading authentic academic texts. In this case, teachers should prioritize the use of small text extracts instead of overwhelming learners with lengthy (unfamiliar) academic texts which contain too many features to analyze simultaneously

3- Make rhetorical moves explicit: novice readers and writers find it hard to recognize rhetorical purposes and registers in complex genres, therefore, teachers are encouraged to apply scaffolding to guide students in the beginning

4- Leverage digital tools: moving beyond traditional textbooks and intuition driven teaching and leveraging corpora and concordancers helps expose learners to authentic disciplinary language patterns .

5- Develop learners' conscious awareness of language function: instructors should encourage learner noticing and metalinguistic reflection rather than merely memorizing linguistic forms (Hyland, 2007; Negretti & Kuteeva)

6- Align tasks with authentic academic and professional demands: this ensures that classroom activities are not merely academic exercises but directly prepare learners for real world communication (Flowerdew, 2012; Hyland, 2009; Basturkmen, 2024)

These recommendations may provide a roadmap for instructors who wish to move from intuition driven and skill isolated EAP teaching to a principled and discourse-based approach that prepares students for genuine participation in academic and professional discourse communities

Conclusion:

Register, genre, and move analysis offer complementary perspectives on academic discourse. Register analysis explains how linguistic choices relate tp situational context and disciplinary communication. Genre analysis, on the other hand, focuses on the socially recognized purposes and organizational structures shaped by discourse communities. In contrast, move analysis refines this by revealing the rhetorical functions operating within genres. Combined together, these analyses provide a multidimensional understanding that neither approach could achieve independently .

From a pedagogical standpoint, this integration offers significant value for EAP teaching. As stated in EAP literature, academic literacy extends beyond grammatical competence to encompass how language, rhetoric, and disciplinary conventions interact in authentic contexts. Therefore, linking linguistic features to rhetorical purposes and genre expectations creates an integrated discourse-based approach that helps learners develop deeper awareness of academic communication and participate more effectively in their discourse communities .

Despite these theoretical and pedagogical benefits, further empirical investigation remains necessary. Future research may examine the effectiveness of register-genre-move integration through classroom-based interventions, especially in ESP contexts, all while exploring impacts on reading comprehension, writing performance, rhetorical awareness, and disciplinary participation. Such research would contribute to a stronger evidence base for discourse informed pedagogy and materials development. Moreover, this paper addresses STEM as a monolithic category, which may be considered as a limitation due to

the broad spectrum of STEM fields, as well as their differences in terms of register and genres

References

Amrani, F. (2023). The process of evaluation : a publisher's view. In Materials Development in Language Teaching (2nd ed.). Cambridge University Press.

Airey, J., & Linder, C. (2009). A Disciplinary Discourse Perspective on University Science Learning: Achieving Fluency in a Critical Constellation of Modes. Journal of Research in Science Teaching, 46(1), 27–49. https://doi.org/10.1002/tea.20265

Basturkmen, H. (2010). Developing courses in English for specific purposes (2nd ed.). Palgrave Macmillan.

Basturkmen, H. (2024). Learning a specialized register: An English for Specific Purposes research agenda. Language Teaching, 58(1), 57–68. https://doi.org/10.1017/S0261444823000472

Bazerman, C. (1988). Shaping written knowledge: The genre and activity of the experimental article in science. University of Wisconsin Press.

Bell, D. E. (2022). Methodology in EAP: Why is it largely still an overlooked issue? Journal of English for Academic Purposes, 55, 101043. https://doi.org/10.1016/j.jeap.2021.101073

Bhatia, V. K. (1993). Analysing genre: Language use in professional settings. Longman.

Bhatia, V. K. (1997). Applied Genre Analysis and ESP. In Functional Approaches to Written Text: Classroom Applications (Tom Miller Ed.). United States Information Agency.

Bhatia, V. K. (2001). Analysing genre: Some conceptual issues. In M. Hewings (Ed.), Academic writing in context: Implications and applications (pp. 79–93). University of Birmingham Press.

Biber, D., & Barbieri, F. (2007). Lexical bundles in university spoken and written registers. English for Specific Purposes, 26(3), 263–286.

Biber, D., & Conrad, S. (2009). Register, genre, and style. Cambridge University Press.

Biber, D., Connor, U., & Upton, T. A. (2007). Discourse on the move: Using corpus analysis to describe discourse structure. John Benjamins.

Biber, D., Conrad, S., & Cortes, V. (2004). If you look at …: Lexical bundles in university teaching and textbooks. Applied Linguistics, 25(3), 371–405.

Biber, D., & Gray, B. (2016). Grammatical Complexity in Academic English: Linguistic Change in Writing. Cambridge University Press.

Biber, D., Johansson, S., Leech, G., Conrad, S., & Finegan, E. (1999). Longman grammar of spoken and written English. Longman.

Biber, D., & Jones, J. K. (2005). Merging corpus linguistic and discourse analytic research goals: Discourse units in biology research articles. Corpus Linguistics and Linguistic Theory, 1(2), 151–182.

Bradford, J. (2025). Challenging 'acceptable reading strategies': Reframing multimodal affordances for academic reading in EAP. BALEAP Journal of Research & Practice, 1(1), 8–23.

Cheng, A. (2015). Genre analysis as a pre-instructional, instructional, and teacher development framework. Journal of English for Academic Purposes, 19, 125–136. https://doi.org/10.1016/j.jeap.2015.04.004

Cheng, A. (2019). Examining the "applied aspirations" in the ESP genre analysis of published journal articles. Journal of English for Academic Purposes, 38, 36–47. https://doi.org/10.1016/j.jeap.2018.12.005

Cheng, A. (2021). The place of language in the theoretical tenets, textbooks, and classroom practices in the ESP genre-based approach to teaching writing. English for Specific Purposes, 64, 26–36. https://doi.org/10.1016/j.esp.2021.07.001

Cheng, A. (2025). Genre and ESP. In The Handbook of English for Specific Purposes (eds S. Starfield and C.A. Hafner). Wiley. https://doi.org/10.1002/9781119985068.ch8

Deng, Y., Lei, J., Jin, T., & Chen, J. (2024). Developing genre awareness in collaborative academic reading: A case study of novice academic learners. English for Specific Purposes, 74, 9–22. https://doi.org/10.1016/j.esp.2023.11.001

Deroey, K. L. . (2018). The representativeness of lecture listening coursebooks: Language, lectures, research-informedness. Journal of English for Academic Purposes, 34, 57–67. https://doi.org/10.1016/j.jeap.2018.03.011.

Devitt, A. J. (1993). Generalizing about genre: New conceptions of an old concept. College Composition and Communication, 44(4), 573–586.
Dong, J., & Lu, X. (2020). Promoting discipline-specific genre competence with corpus-based genre analysis activities. English for Specific Purposes, 58, 138–154. https://doi.org/10.1016/j.esp.2020.01.005
Dudley-Evans, T., & St John, M. J. (1998). Developments in English for specific purposes: A multidisciplinary approach. Cambridge University Press.
Flowerdew, L. (2012). Needs analysis and curriculum development in ESP. In The Handbook of English for Specific Purposes (Paltridge & S. Starfield Ed.). Wiley-Blackwell.
Flowerdew, J., & Miller, L. (1997). The teaching of academic listening comprehension and the question of authenticity. English for Specific Purposes, 16(1), 27–46.
Goatly, A. (2000). Critical reading and writing: An introductory coursebook. Routledge.
Grapin, S. E., Llosa, L., Haas, A., & Lee, O. (2021). Rethinking instructional strategies with English learners in the content areas. TESOL Journal, 12(2), e557.
Gruber, H., & Huemer, B. (2008). Two views on text structure: Using rhetorical structure theory and register & genre theory in improving students' academic writing. Odense Working Papers in Language and Communication, 29, 332–365.
Halliday, M. A. K. (1978). Language as Social Semiotic: The Social Interpretation of Language and Meaning. Edward Arnold.
Halliday, M. A. K. (1989). Spoken and written language. Oxford University Press.
Halliday, M. A. K., & Hasan, R. (1985). Language, context, and text: Aspects of language in a social-semiotic perspective. Deakin University Press.
Halliday, M. A. K., & Martin, J. R. (1993). Writing science: Literacy and discursive power. University of Pittsburgh Press.
Halliday, M. A. K., & Matthiessen, C. M. I. M. (2014). Halliday's Introduction to Functional Grammar (4th ed.). Routledge.
Halliday, M. A. K., McIntosh, A., & Strevens, P. (1964). The linguistic sciences and language teaching. Longman.
Harwood, N. (2005). "We do not seem to have a theory … The theory I present here attempts to fill this gap": Inclusive and exclusive pronouns in academic writing. Applied Linguistics, 26(3), 343–375. https://doi.org/10.1093/applin/ami012
Harwood, N. (2024, November 1). Challenges and tensions in materials design for English for Academic Purposes [Conference presentation slides]. BALEAP Professional Issues Meeting, University of Portsmouth, Portsmouth, United Kingdom.
Hyland, K. (1998). Hedging in Scientific Research Articles. Amsterdam: John Benjamins.
Hyland, K. (1994). Hedging in academic writing and EAP textbooks. English for Specific Purposes, 13(3), 239–256.
Hyland, K. (2004). Disciplinary discourses: Social interactions in academic writing (Michigan Classics Ed.). University of Michigan Press.
Hyland, K. (2005). Metadiscourse: Exploring interaction in writing. Continuum.
Hyland, K. (2005). Stance and engagement: A model of interaction in academic discourse. Discourse Studies, 7(2), 173–192.
Hyland, K. (2006). English for academic purposes: An advanced resource book. Routledge.
Hyland, K. (2007). Genre pedagogy: Language, literacy and L2 writing instruction. Journal of Second Language Writing, 16(3), 148–164. https://doi.org/10.1016/j.jslw.2007.07.005
Hyland, K. (2008a). Disciplinary voices: Interactions in research writing. English Text Construction, 1(1), 5–22. https://doi.org/10.1075/etc.1.1.03hyl
Hyland, K. (2008b). Genre and academic writing in the disciplines. Language Teaching, 41(4), 543–562. https://doi.org/10.1017/S0261444808005235
Hyland, K. (2008c). Persuasion, interaction and the construction of knowledge: Representing self and others in research writing. International Journal of English Studies, 8(2), 1–23. https://doi.org/10.6018/ijes.8.2.4915
Hyland, K. (2009). Academic discourse: English in a global context. Continuum.
Hyland, K. (2022). Teaching and researching writing (4th ed.). Routledge.
Imani, A., & Habil, H. (2014). Lexical Features of Academic Writing. LSP International Journal, 1(1), 41–50. https://doi.org/10.11113/lspi.v1n1.10

Johns, A. M. (1997). Text, Role and Context: Developing Academic Literacies. Cambridge University Press.
Johns, A. M. (2002). Genre in the Classroom: Multiple Perspectives (1st Ed.). Lawrence Erlbaum Associates.
Kanoksilapatham, B. (2005). Rhetorical structure of biochemistry research articles. English for Specific Purposes, 24(3), 269–292. https://doi.org/10.1016/j.esp.2004.08.003.
Lin, L., & Evans, S. (2012). Structural patterns in empirical research articles: A cross-disciplinary study. English for Specific Purposes, 31(3), 150–160. https://doi.org/10.1016/j.esp.2011.10.002
Martin, J. R. (1985). Factual writing: Exploring and challenging social reality. Deakin University Press.
Martin, J. R., & Rose, D. (2005). Designing literacy pedagogy: scaffolding asymmetries. In Continuing Discourse on Language: a Functional Perspective (R. Hasan, C. M. I. M. Matthiessen and J. J. Webste, Vol. 1). London: Continuum.
Martin, J. R., & Rose, D. (2007). Working with discourse: Meaning beyond the clause (2nd ed.). Continuum.
Martínez, I. A. (2001). Impersonality in the research article as revealed by analysis of the transitivity structure. English for Specific Purposes, 20(3), 227–247.
Miller, C. R. (1984). Genre as social action. Quarterly Journal of Speech, 70(2), 151–167.
Moreno, A. I., & Swales, J. M. (2018). Strengthening move analysis methodology towards bridging the function-form gap. English for Specific Purposes, 50, 40–63. https://doi.org/10.1016/j.esp.2017.11.006.
Negretti, R., & Kuteeva, M. (2011). Fostering metacognitive genre awareness in L2 academic reading and writing: A case study of pre-service English teachers. Journal of Second Language Writing, 20(2), 95–110. https://doi.org/10.1016/j.jslw.2011.02.002
Ötügen, R., Takkaç, M., & Yağız, O. (2021). Genre analysis in ESP: A review of move analysis models and metadiscourse taxonomies. E-Kafkas Journal of Educational Research, 8(1), 67–85. https://doi.org/10.30900/kafkasegt.877595.
Parkinson, J. (2017). Teaching writing for science and technology. In J. Flowerdew & T. Costley (Eds.), Discipline-specific writing: Theory into practice (pp. 95–112). Routledge.
Rose, D., & Martin, J. R. (2012). Learning to write, reading to learn : genre, knowledge and pedagogy in the Sydney school. Equinox.
Rowley-Jolivet, E., & Carter-Thomas, S. (2005). The rhetoric of conference presentation introductions: context, argument and interaction. International Journal of Applied Linguistics, 15, 45–70. https://doi.org/10.1111/j.1473-4192.2005.00080.x
Stevani, M., Saragi, A., Astuti, P., & Permatasari, Y. D. (2025). Refining final report writing in English for hospitality communication through genre-specific move, service lexicon precision, and contextual register. English Education: English Journal for Teaching and Learning, 13(2), 138–165. https://doi.org/10.24952/ee.v13i2.16456.
Stoller, F. L., & Robinson, M. S. (2013). Chemistry journal articles: An interdisciplinary approach to move analysis with pedagogical aims. English for Specific Purposes, 32(1), 45–57. https://doi.org/10.1016/j.esp.2012.09.001
Stoller , F. L., & Robinson , M. S. (2014). An Interdisciplinary Textbook Project: Charting the Paths Taken. In English Language Teaching Textbooks: Content, Consumption, Production (Nigel Harwood Ed.). Springer.
Swales, J. M. (1990). Genre analysis: English in academic and research settings. Cambridge University Press.
Swales, J. M. (2004). Research genres: Explorations and applications. Cambridge University Press.