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Assessment Of Scholarly Discourse In An Esp Context:Case Of Research-Based Biology Articles At The University Of Tlemcen

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Abstract:

This study investigates the assessment of scientific discourse within the framework of English for Specific Purposes (ESP), focusing on biology teachers at the University of Tlemcen. It identifies the challenges they face in meeting international publication requirements and demonstrates that writing assessment is an effective tool for determining linguistic and rhetorical needs. Using a mixed-method approach that combines quantitative and qualitative data, the findings highlight the importance of precise analyses to address these needs. The study proposes context-sensitive strategies and explicit criteria aimed at enhancing clarity, coherence, and overall quality in academic writing related to biology.

Keywords: Assessment, Scholarly Discourse, English for Specific Purposes (ESP), Teachers'Needs.

1.Introduction

Assessment is a key instructional instrument that provides relevant measures of important learning outcomes and determines whether the goals of education are being achieved. It can also be viewed as a tool for gathering richer information about the effects of teaching approaches on learners (Feryal Hamidou, 2016, p.8). According to Chapelle and Brindley (2002, p.267), assessment in language teaching and learning refers to the "act of collecting

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information and making judgments about the learner's knowledge of a language and ability to use it." In other words, assessment is a process of collecting information about how learners are learning in order to help teachers better understand and describe their learners' needs and identify future instructional directions.

Among the four language skills, writing is considered one of the most difficult skills in English as a Foreign Language, since even native speakers may experience difficulties in mastering it. According to Badger and White (2000), "Writing involves knowledge about language, knowledge of the context in which writing happens and especially the purpose and skills in using language" (pp.157–158). Therefore, writing requires not only linguistic mastery but also the ability to use language effectively in context, which makes the assessment of writing an essential process for measuring learners' knowledge and writing skills.

The world has become very reliant on English as a global language, prompting the need for courses specifically designed to help individuals develop their English skills based on their academic and career objectives (Feryal Hamidou, 2016, p.11). One example of this type of course is called English for Specific Purposes (ESP), which focuses on teaching and learning English pertaining to specific subject areas and intended for certain work-related or educational goals (Feryal Hamidou, 2016, p.12). ESP courses have a definitive (in relation to an individual's work, education, or academic requirements) utilitarian purpose when teaching students the English language (Mackay & Mountford, 1978).

Various universities across the world are offering a number of ESP courses nowadays. ESP includes specialized branches designed to meet the particular needs of learners in different academic and professional fields. For instance, ESP may take the form of English for Biologists, English for Economists, English for Business People, English for Educators, or English for Engineers. Each branch focuses on the specific terminology, communicative practices, and language skills required in a given discipline or profession. Therefore, ESP can

be defined as a learner-centred approach to language teaching that is based primarily on the learners' needs, objectives, and reasons for learning English. It includes not only knowledge of a specific area of the English language, but also the capacity and competency to use language skills effectively in academic and professional contexts.

2.Statement of the Problem

In the realm of scientific communication, the ability to produce well-crafted research articles is an essential prerequisite for disseminating new knowledge and contributing to the advancement of one's field. Within the discipline of biology, this requirement is particularly pronounced, as peer-reviewed publications remain the primary channel for validating and sharing scientific findings.

However, many biology teachers face persistent obstacles when attempting to publish their work in reputable academic journals. Regardless of the originality or potential impact of their research, poorly structured or linguistically inadequate manuscripts are frequently rejected at the initial review stage. This situation reflects a broader issue observed across many non-native English-speaking academic communities, where linguistic competence significantly influences scholarly visibility and recognition.

One of the key challenges lies in the mastery of academic English, which demands more than just general language proficiency. Effective research writing requires precise vocabulary, logical organisation, coherent argumentation, and adherence to disciplinary conventions of style and format.

For many researchers in Algeria and similar contexts, limited exposure to academic writing training in English has resulted in restricted lexical range, frequent grammatical errors, and inaccuracies in spelling and punctuation. Such limitations often lead to ambiguity, weaken the clarity of argumentation, and diminish the overall persuasive power of the article.

Moreover, in scientific writing, even minor linguistic flaws can obscure key findings, making it more difficult for reviewers and readers to fully engage with the research (Flowerdew, 2013 ; Hyland, 2009). As a consequence, these deficiencies often lead to repeated

article rejections, which not only delay the publication process but also negatively affect researchers' motivation and professional development.

Furthermore, this barrier to publication limits the international visibility of valuable local research, thereby restricting its contribution to global scientific discourse. In many cases, high-quality research remains confined to institutional reports, local conferences, or non-indexed publications, reducing its potential to influence scientific debates and policy-making.

Addressing this problem requires targeted interventions. These initiatives include specialised English for Specific Purposes (ESP) courses, writing workshops, and collaborative mentoring programmes designed to enhance both the linguistic and rhetorical competence of biology teachers, thereby enabling researchers to meet the rigorous standards of international journals and participate more effectively in the global academic community.

3. Purpose of the Study

The present study aims to address difficulties in academic writing through the assessment of ESP articles written by Biology teachers. Like any language-teaching programme, ESP requires assessment instruments that reflect the teacher's methodology and the learners' specific academic and professional needs. Since researchers writing in English often face linguistic and rhetorical challenges, they need to develop the competencies required to function effectively in a specific discipline, profession, or workplace.

Moreover, researchers are expected to produce coherent and well-structured articles because scientific research and technical exchange at international conferences cannot be achieved without acceptable academic work written in English. Hence, assessing their written production becomes an essential task in helping them improve their writing skills and meet the conventions of international scholarly communication.

Therefore, this study will primarily focus on assessing ESP articles written by Biology teachers that will help scholars writing performance in academic journals.

4. Methodology

In order to address the research objectives comprehensively, a multi-method data collection strategy is adopted. The study employs a combination of quantitative and qualitative research tools to ensure a rich and triangulated understanding of ESP context within the Biology Department.

The rationale for using multiple instruments is to capture different dimensions of the problem: the explicit needs and perceptions of biology teachers, the pedagogical perspectives of ESP instructors, and the tangible linguistic features present in published and unpublished scholarly work. Such a mixed-method approach is widely recommended in applied linguistics research, as it facilitates the corroboration of findings across different data sources (Creswell & Plano Clark, 2018).

The first research tool consists of a structured questionnaire distributed to biology teachers. This instrument was designed to elicit detailed information about the respondents'perceived language needs, writing challenges, and professional expectations regarding ESP support.

The questionnaire includes both closed-ended items such as Likert-scale ratings of perceived difficulty in key language skills and open-ended prompts to allow participants to elaborate on specific obstacles they encounter in their academic writing. Particular attention was paid to identifying recurrent linguistic and rhetorical challenges, including vocabulary range, grammatical accuracy, logical structuring of arguments, and familiarity with the conventions of scientific discourse. The design of the questionnaire drew inspiration from established needs analysis frameworks in ESP research (Basturkmen, 2010; Hutchinson & Waters, 1987).

The second instrument is a series of semi-structured interviews conducted with ESP teachers and subject-matter specialists. This method was chosen for its flexibility, allowing the researcher to follow a set of guiding questions while also probing into further details based on participants' responses. The interviews aimed to gather qualitative insights into the current state of ESP provision in

the Biology Department, the adequacy of teaching materials, and the extent of collaboration between language instructors and biology faculty members.

Moreover, interviewees were invited to reflect on their own professional development needs and to suggest strategies for enhancing ESP instruction in scientific contexts. Following best practices in qualitative research, interviews were audio-recorded with participants' consent and later transcribed verbatim for thematic analysis (Braun & Clarke, 2006).

The third source of data is the collection and linguistic analysis of research articles authored by biology teachers. These articles, whether published or intended for publication, provided concrete evidence of the authors' current writing abilities and highlighted specific linguistic and rhetorical issues.

The analysis focused on aspects such as overall text organisation, clarity and coherence of arguments, use of discipline-specific terminology, grammatical accuracy, and adherence to international formatting and citation standards. This textual analysis was guided by established models of genre analysis in academic writing, particularly Swales' (1990) Create a Research Space (CARS) model for structuring research article introductions and Hyland's (2004) work on disciplinary discourse.

By examining authentic texts, the study was able to identify gaps between intended meaning and actual expression, thereby offering a more nuanced understanding of the challenges faced by biology scholars when writing in English.

By integrating the results from these three complementary data sources questionnaires, interviews, and text analysis the research aims to produce a holistic picture of the current ESP environment in the Biology Department. This methodological triangulation not only enhanced the validity of the findings but also ensured that both the learners' and the instructors' perspectives were represented.

Ultimately, the insights gained from this multi-faceted methodology will serve as the basis for making informed

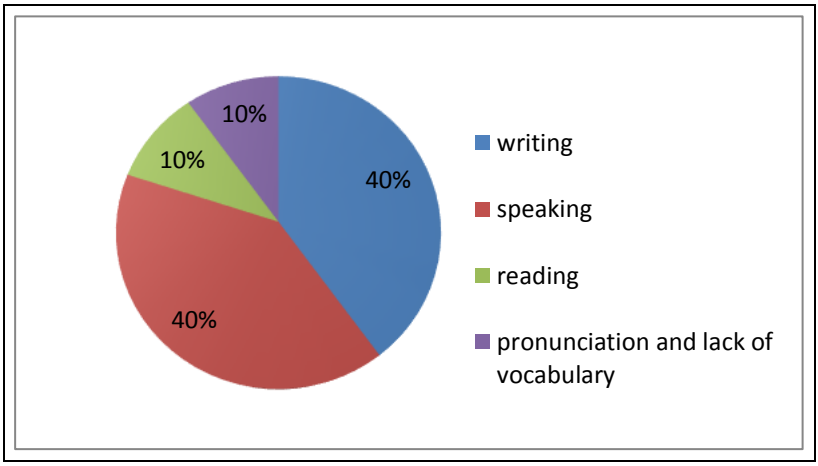
recommendations for curriculum reform, targeted professional development, and institutional support mechanisms.

5. Results and Discussion of Findings

After data was collected, it was analized either qualitatively or quantitatively. This work has argued that Biology researchers face difficulties in English language.

These results are summarized in Figure 1:

Fig1.Pie Chart: Difficulties Encountered by Biology Researchers in English language



5.1 Quantitative Findings from Biology Teachers' Questionnaires

The results obtained from the teachers' responses revealed that they experienced difficulties in several language skills. Speaking represented the most common difficulty, with an average percentage of 40%. In addition, 40% of the respondents considered writing to be a very difficult skill, while others reported problems related to reading, pronunciation, and lack of vocabulary.

Participants frequently reported challenges related to vocabulary selection, the effective use of cohesive devices, logical organisation of ideas, and grammatical accuracy. Notably, 72% disclosed that they had never received formal training in academic writing specifically tailored to scientific contexts, corroborating findings by Dudley-Evans and St John (1998) regarding the inadequacy of ESP provision in

certain domains. Only 18% had attended a writing-focused workshop or seminar, suggesting limited institutional support in this area.

Moreover, several participants expressed low confidence in deploying precise scientific terminology, constructing research-based arguments, and adhering to international publication conventions skills essential for integration into global scholarly discourse (Swales, 1990).

5.2 Qualitative Insights from ESP Teachers' Interviews

The qualitative evidence obtained from semi-structured interviews with ESP instructors and disciplinary specialists both confirmed and enriched the quantitative results. Many ESP practitioners voiced concerns over the scarcity of pedagogical resources explicitly designed for scientific writing in English, a problem also noted in Basturkmen (2010). The reliance on generic English language textbooks and outdated syllabi often resulted in a mismatch between course content and the rhetorical demands of biology research articles.

Furthermore, interviewees pointed to a lack of professional development opportunities and insufficient collaboration between language instructors and subject specialists. As one instructor commented: "We often feel isolated. There is no real communication between the English department and the science faculty." This disciplinary disconnection echoes Hyland's (2002) argument that effective ESP instruction requires close cooperation between language and content experts.

Another recurrent observation was the instructors' limited familiarity with genre-based approaches to teaching, which are fundamental for equipping researchers with the skills to produce coherent, rhetorically sound, and publishable scientific work (Bhatia, 1993; Swales, 1990).

5.3 Observations from the Analysis of Biology Research Articles

An examination of selected biology research articles authored by faculty members revealed consistent weaknesses in rhetorical organisation, particularly within the introduction, methodology, and discussion sections. In several cases, the absence of a clearly defined research gap and a lack of logical argument progression diminished the clarity and overall persuasiveness of the articles.

These patterns are consistent with Swales' (1990) analysis of research article introductions and the necessity of the 'Create a Research Space' (CARS) model for establishing relevance and contribution. Lexical inaccuracies were prevalent, often resulting from literal translation from French or Arabic, which led to awkward phrasing and occasional ambiguity. Grammatical issues, including inappropriate use of the passive voice and unclear sentence structure, further obscured the communication of key findings. In terms of referencing, many articles demonstrated inconsistency in citation style and insufficient engagement with current literature, reflecting a limited integration into ongoing scholarly debates. Such shortcomings reduce the impact and credibility of scientific work, as emphasised by Flowerdew (2001) in his studies on academic discourse.

6. Recommendations

The final section of the paper focuses on effective ways to assess ESP articles written by biology teachers and provides recommendations for various assessment methods.

However, the findings from these three data sources underscore the urgent need for targeted reforms in ESP provision for the Biology Department. Priority should be given to developing interdisciplinary ESP modules co-designed by language specialists and biology faculty members, ensuring alignment between linguistic training and disciplinary practices (Hyland, 2009). Professional

development initiatives should be established to enhance ESP instructors' expertise in genre-based and task-based instruction, equipping them to address the specific conventions of scientific discourse.

Moreover, integrating authentic tasks such as writing laboratory reports, journal articles, and conference abstracts into the curriculum can bridge the gap between classroom instruction and real-world communicative needs (Basturkmen, 2010). Institutional support mechanisms, including writing centres, peer review workshops, and mentoring programs, are essential for fostering sustained improvement in research writing proficiency (Murray & Moore, 2006).

By adopting these measures, the Faculty of Sciences can strengthen its capacity to produce internationally competitive research and enhance its visibility in global academic networks.

7. Conclusion

In conclusion, this research was undertaken with the conviction that proficiency in English plays a pivotal role in enabling researchers, particularly within the field of biology, to participate fully in the global academic community. The investigator's motivation stemmed from an awareness of the linguistic and rhetorical challenges faced by non-native English-speaking scholars, as well as from a recognition of the transformative potential that targeted English for Specific Purposes (ESP) instruction can have on research productivity and visibility. Through the analysis of the current situation at the Department of Biology, the study has sought to provide a detailed account of the factors influencing writing quality, including institutional practices, instructional methods, and individual competencies.

The suggestions and recommendations put forward in this work are intended to respond to the varied needs of ESP researchers. These proposals encompass both pedagogical and institutional

measures, from the development of genre-based writing courses and discipline-specific resources to the enhancement of professional collaboration between language specialists and subject experts. The ultimate aim is to establish a coherent and supportive framework that equips scholars with the linguistic accuracy, rhetorical sophistication, and disciplinary awareness required to produce high-quality research articles.

It is anticipated that, if implemented, these strategies will contribute to strengthening the overall standard of academic writing at the Department of Biology, thereby increasing the likelihood of publication in reputable, peer-reviewed journals. Beyond improving individual writing skills, such reforms hold the potential to enhance the department's international research profile, promote greater engagement in cross-border scientific collaborations, and ensure that locally generated knowledge makes a meaningful contribution to global scholarly discourse. This research therefore not only diagnoses current challenges but also offers practical pathways for sustainable improvement in ESP writing assessment and instruction.

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