



FROM LANGUAGE GAP TO CLINICAL COMPETENCE IN INTERNATIONAL HUMANITARIAN CONTEXTS: MEETING THE NEEDS OF ALGERIAN MEDICAL PRACTITIONERS

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Abstract

Although English is the lingua franca of international humanitarian medicine, healthcare professionals trained in predominantly Francophone systems often face significant communicative barriers in high-pressure environments. This study investigates the linguistic preparedness of Algerian doctors during the 2024 Gaza humanitarian mission, a context in which English functioned as the primary operational language. Using an exploratory mixed-methods design, data were collected from ten participating doctors through a semi-structured questionnaire and discourse analysis of a narrative field account. Findings reveal a critical functional gap: while participants possessed receptive academic English, they lacked operational fluency for core clinical tasks. Notably, a 'productive atrophy' was identified in clinical writing, with 0% of participants engaging in English-based documentation in their daily practice. During the mission, although 90% of practitioners subjectively felt that language barriers did not noticeably degrade the final quality of care, a staggering 80% admitted to specific instances where they were unable to perform effectively due to linguistic limitations. Specifically, 60% of participants reported significant difficulties in high-stakes tasks, including discussing patient cases and writing medical notes, with qualitative data highlighting terminological misalignment during surgery and an inability to produce accurate post-operative documentation. The findings suggest a structural misalignment between Algeria's French-medium medical education and the

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demands of global emergency medicine. The results advocate for a shift towards Medical English as a Lingua Franca (MELF) models that prioritise operational speed and patient safety. The findings provide empirical justification for the integration of task-based Medical English (EMP) training within the Algerian medical curriculum to ensure professional autonomy in international contexts. The study contributes to ESP research by conceptualising linguistic preparedness as a dimension of clinical competence in high-stakes international medical contexts.

Keywords: English for Medical Purposes (EMP), Linguistic Preparedness, Medical English as a Lingua Franca (MELF), Needs Analysis, Humanitarian Healthcare, Algerian Medical Education

Introduction

English has become the dominant language of international scientific communication and medical collaboration. In healthcare environments where professionals from diverse linguistic and educational backgrounds work together, effective communication is essential for ensuring patient safety, coordinating clinical decisions, and facilitating teamwork. This need becomes even more critical in humanitarian or emergency contexts, where rapid decision-making and clear information exchange may directly influence medical outcomes. In such contexts, language proficiency extends beyond academic competence to become an operational requirement unswervingly linked to clinical efficiency and patient safety.

In recent decades, the expansion of international humanitarian missions has brought together medical professionals from multiple countries and linguistic traditions. In these environments, English often functions as a shared communicative medium among international teams. However, healthcare professionals trained in systems where other languages dominate medical education may encounter communicative challenges when participating in international missions.

In Algeria, medical education has historically been conducted primarily in French, reflecting the legacy of the country's higher education system. While French continues to play a major role in academic medical training, the increasing global prominence of English in medical research, professional communication, and international collaboration has generated growing debate regarding the need to strengthen English language competencies among healthcare professionals. Recent educational reforms and academic discussions have emphasised the importance of integrating

English for Medical Purposes (EMP) within medical training in order to align Algerian healthcare professionals with global scientific and professional networks.

The 2024 humanitarian medical mission to Gaza provided a unique context in which Algerian doctors collaborated with local and international medical teams under highly demanding conditions. During this mission, several participating doctors publicly reported encountering linguistic challenges when interacting with international colleagues and navigating medical communication in English. These experiences highlight the importance of what may be termed *linguistic preparedness*, referring to the degree to which healthcare professionals possess the language skills required to operate effectively in multilingual medical environments, particularly in high-pressure emergency situations.

Although numerous studies have examined needs analysis and English for Medical Purposes in academic medical settings, relatively little research has explored linguistic challenges faced by practising healthcare professionals during real humanitarian missions. Most EMP studies focus on medical students within university environments, leaving a gap in our understanding of the communicative demands experienced by doctors in international crisis contexts. Examining such real-life professional situations can provide valuable insights into the types of communicative competencies required for effective medical collaboration across linguistic boundaries.

Despite increasing recognition of English in Algerian higher education, little empirical research has examined how healthcare professionals experience linguistic challenges in real international medical missions. The present study aims to explore issues of linguistic preparedness among Algerian doctors who participated in the 2024 Gaza humanitarian mission. Specifically, the study seeks to identify the communication situations in which English was required, the difficulties encountered by the participating doctors, and the types of language skills perceived as necessary for effective professional interaction in such contexts. By examining these experiences, the study provides preliminary insights that may inform the development of English for Medical Purposes training programmes tailored to the needs of Algerian healthcare professionals.

This study approaches linguistic preparedness not merely as an academic skill, but as an operational competence required for effective participation in international medical environments. Furthermore, it is particularly timely in light of Algeria's ongoing shift towards English as a Medium of Instruction (EMI) in higher education, especially in scientific and medical fields. To explore these dynamics, the research addresses the following questions and hypotheses:

1. In which professional situations did Algerian doctors require English communication during the humanitarian mission?
 - H1: English communication is likely required for high-stakes clinical coordination, surgical tasks and multidisciplinary handovers rather than routine administrative duties.
2. What linguistic challenges did they encounter when interacting with international medical teams?
 - H2: the primary barriers may involve a lack of productive oral fluency and a significant misalignment between French-based medical terminology and international English standards.
3. What types of Medical English skills do participants identify as necessary for improving communication in international healthcare contexts?
 - H3: Types of Medical English skills may include task-based operational skills and emergency-specific discourse over general academic vocabulary or receptive reading skills.

These questions and hypotheses are examined through the analysis of questionnaire responses from participating doctors and qualitative insights derived from their reflections on the mission.

Literature Review

Building on previous studies, this section reviews the body of literature on the importance and the purposes of using English in the medical field; it also provides a critical analysis of the Algerian linguistic situation and educational reform.

The Global Dominance of English in Medical Communication

In recent decades, English has solidified its position as the primary lingua franca of international scientific communication. As Hyland (2009) argues, English functions as a global medium that allows professionals to participate in the specialised discourses of their international peer communities. In the medical field, this dominance is particularly evident, as clinical protocols, international guidelines, and high-impact research are overwhelmingly disseminated in English (Paltridge & Starfield, 2013). Consequently, English proficiency has evolved from a supplementary academic asset into an essential professional competence required for multinational medical missions and cross-border healthcare delivery.

English for Medical Purposes within the ESP Framework

English for Medical Purposes (EMP) is a specialised branch of English for Specific Purposes, which focuses on language instruction tailored to the communicative needs of specific professional groups. The theoretical foundations of ESP, as established by Hutchinson and Waters (1987), emphasise that courses should be designed based on learners' target situations and communicative requirements. Dudley-Evans and St John (1998) further argue that all decisions regarding content and methodology must be grounded in learners' reasons for learning.

Within this framework, Woodrow (2017) and Graves (1996) highlight that effective EMP instruction must reflect authentic professional practices, including case presentations, clinical reporting, and interdisciplinary communication. This suggests that EMP should not be limited to the acquisition of specialised vocabulary but must also develop learners' ability to perform effectively in real-life communicative situations, particularly those characterised by urgency and unpredictability.

Needs Analysis as a Foundation for Course Design

Needs analysis is widely recognised as a cornerstone of ESP course design, providing a systematic means of identifying learners' linguistic requirements within specific professional contexts. One of the earliest and most influential models was proposed by Munby (1978), who introduced Target Situation Analysis (TSA) to identify the communicative demands associated with particular occupational roles.

Subsequent developments have expanded this perspective. Hutchinson and Waters (1987) propose that effective programmes must address *necessities, lacks, and wants*, thereby integrating both objective and subjective dimensions of learner need. Long (2005) further emphasises the importance of incorporating multiple stakeholders to ensure that needs analysis remains contextually and operationally relevant.

While a substantial body of research has examined the linguistic needs of medical students, relatively few studies have focused on practising healthcare professionals operating in high-risk environments. As noted in ESP research, traditional needs analysis has often prioritised stable professional contexts, thereby underrepresenting the dynamic and high-pressure conditions in which communication becomes critically consequential.

Taken together, these studies highlight a consistent emphasis on needs analysis as a foundation for ESP course design. However, they also reveal a critical limitation: most existing research remains anchored in academic or pre-professional contexts. As a result, the dynamic and high-stakes communicative demands of real-world medical practice, particularly in emergency and humanitarian settings, remain underexplored. This gap suggests the need to extend needs analysis beyond classroom-based environments towards operational professional contexts.

The Algerian Context: Linguistic Tensions and Educational Reforms

In Algeria, the linguistic landscape of higher education has historically been shaped by the predominance of French as the principal language of instruction in scientific and medical disciplines (Benrabah, 2013). As a result, most Algerian healthcare professionals receive their academic training in French, while English is often assigned a secondary role. This linguistic transition is further evidenced by recent data suggesting that English is rapidly displacing French as the primary medium for high-impact scientific publication among Algerian researchers (Ghounane, 2023), creating an urgent need for practitioners to move beyond receptive reading to active professional production.

The strategic shift towards English in Algerian higher education was initially framed as a means to align professionals with global scientific networks (Rezig, 2011). However, recent local studies, including those

conducted at the University of Bejaia, indicate that despite increasing institutional attention, a significant functional gap persists between training and practice (Bououden & Rouaghe, 2025). Further research into the needs of Algerian healthcare professionals confirms that current EMP course designs often fail to meet the specific communicative demands of the clinical workplace (Outemzabet & Sarnou, 2023).

Research on EMP in Algeria further highlights a misalignment between the linguistic preparation provided during medical education and the communicative demands encountered in real professional contexts. This creates a structural tension between the language of instruction (French) and the language of global medical communication (English), which may result in functional limitations in international and collaborative settings. For instance, Laggoun Belhoul and Benmoussat (2023) found that Algerian medical learners often experience significant "linguistic interference" when switching between French and English medical terminology, leading to conceptual confusion in clinical settings. Furthermore, Zemali and Naoua (2025) observe that many ESP programmes in Algerian universities remain generic, failing to incorporate the specific, task-based needs analysis required for professional medical practice. These findings are further supported by Outemzabet and Sarnou (2023), who identified a critical need for operational English among medical academic communities in clinical teaching hospital settings, and Bououden and Rouaghe (2025), who documented target learning priorities and communication requirements among medical students in Bejaia.

These studies collectively suggest that the functional gap is not merely an individual struggle but is deeply rooted in the lack of specialised, task-oriented training. In other words, while previous research has identified these gaps within the safety of the classroom or local hospitals, the 2024 Gaza mission represents a "stress test" where these theoretical weaknesses became real-world clinical risks. This demonstrates that without a curriculum that addresses the interference between French and English, Algerian doctors remain linguistically vulnerable in international emergency contexts.

Previous Studies

Recent scholarship has begun to move beyond traditional ESP models towards the concept of Medical English as a Lingua Franca (MELF), where

communication frequently occurs among non-native speakers. As Tweedie and Johnson (2018) observe, in such contexts, intelligibility and pragmatic clarity become critical factors in ensuring effective interaction and patient safety. This perspective reframes language in medical contexts not merely as an academic competence, but as a form of clinical preparedness, where the ability to communicate effectively under pressure becomes integral to professional performance.

Empirical research in both international and Algerian contexts sustain this shift. In the Algerian context, Laggoun Belhoul and Benmoussat (2023) examined the impact of switching between French and English in an EMP course. Utilising a mixed-methods design with a sample of pharmacy students, the study found that while code-switching facilitates terminology comprehension, it does not develop the ability to engage in spontaneous, real-time communication. Similarly, Bououden and Rouaghe (2025) investigated the needs of medical students at the University of Bejaia. Through a mixed-methods diagnostic needs analysis of second-year students, they revealed a significant deficiency in productive skills, particularly speaking, highlighting a gap between instructional practices and clinical demands.

Further evidence is provided by Outemzabet and Sarnou (2023), who explored language use in hospital settings. Using an exploratory qualitative design involving focus groups and interviews with 26 medical academics in Bejaia, they demonstrated that the complex trilingual environment (Arabic, French, and English) often creates challenges for clinical clarity. The latter is reinforced by Belaskri (2017), who, using questionnaires, interviews and observation in private surgeries and the university hospital of Sidi Bel Abbes, showed that physicians trained exclusively in French rely heavily on French and medical jargon, creating linguistic barriers in communication with patients. Finally, Abu Safiyeh (2021), in a descriptive-analytical Master's study of Palestinian medical students, suggests that linguistic discordance between local and international protocols can hinder care even in stable environments.

However, despite these contributions, there remains a notable absence of empirical research examining the lived experiences of healthcare professionals in real humanitarian contexts. By focusing on the 2024 Gaza mission, the present study extends these findings into a high-intensity

setting where such barriers are significantly amplified, contributing to a reconceptualisation of language as a core component of clinical preparedness.

Methodology

To investigate the operational linguistic challenges faced by Algerian doctors during the 2024 Gaza humanitarian mission, this study adopts a mixed-methods research framework. This section details the research design, participant selection, and the multi-layered data collection process used to capture the intersection of language proficiency and clinical performance in a high-intensity conflict zone.

Research Design

This study employs an exploratory mixed-methods research design to investigate the linguistic preparedness of Algerian doctors in international humanitarian contexts. A mixed-methods approach is particularly suited for this study as it allows for the collection of quantifiable data on language frequency and difficulty, while simultaneously capturing the nuanced, lived experiences of the participants through qualitative reflections (Creswell & Plano Clark, 2018). In this design, the quantitative component utilises a semi-structured questionnaire to establish a statistical baseline of communicative barriers, while the qualitative component incorporates the open-ended responses from this questionnaire alongside discourse analysis of authentic mission communications to provide context-rich depth.

To enhance the credibility and validity of the findings, the study utilises methodological triangulation. By combining quantitative questionnaire data with qualitative narrative analysis, the research provides a multi-dimensional perspective on communication barriers that a single data source might overlook (Paltridge & Starfield, 2013). The importance of this triangulation lies in its ability to cross-verify the participants' self-reported needs against their actual linguistic performance in the field. By integrating these diverse data streams, the study mitigates individual researcher bias and ensures that the resulting analysis is robust, credible, and representative of the complex operational realities encountered during the mission.

In addition, the quantitative component specifically examines the frequency of English use across key clinical tasks, as well as participants'

self-reported levels of difficulty in performing these tasks. The qualitative component, by contrast, explores the interactional and contextual dimensions of communication, including real-time challenges, instances of misunderstanding, and communicative breakdowns encountered during the mission. This distinction further clarifies the complementary roles of both components and reinforces the value of triangulation in producing findings that are both statistically grounded and contextually rich.

Participants and Sampling

The target population for this study consisted of Algerian healthcare professionals who were deployed as part of the humanitarian medical mission to Gaza in 2024. A purposive sampling technique was employed to select participants (N=10) who met the specific criteria of having directly engaged in clinical and surgical activities within the mission's multinational environment.

Purposive sampling was chosen because it allows the researcher to focus on 'information-rich' cases that are most relevant to the phenomenon of Medical English as a Lingua Franca (MELF) in conflict zones (Palinkas et al., 2015). The cohort represented a diverse range of high-level specialists, including:

- Surgical Specialists: Neurosurgery, Orthopaedic Surgery, and Maxillofacial Surgery.
- Support Specialists: Anaesthesiology and Intensive Care.

The sample is characterised by a high level of professional seniority, which ensures that the communicative challenges identified are representative of expert-level clinical practice rather than a lack of medical knowledge. Specifically, 70% of participants possessed over 11 years of experience, with 40% having practised for more than 20 years. Despite this clinical maturity, 60% of the cohort had no prior experience in international humanitarian missions, making the Gaza deployment a critical linguistic turning point in their careers.

The sample was gender-homogeneous (100% male), reflecting the specific composition of the medical teams available for response during the period of data collection. While the sample size is small (N=10), it is contextually significant for an exploratory study. In ESP (English for Specific Purposes)

research, particularly when investigating a 'Target Situation Analysis' (TSA), the depth of insight gained from a specific group of practitioners in a unique environment is often more analytically valuable than a broad, non-specific sample (Hutchinson & Waters, 1987; Paltridge & Starfield, 2013).

Ethical considerations were observed, and participants' anonymity and confidentiality were ensured throughout the study.

Data Collection Instruments

To meet the methodological framework of the study, this section describes the data collection tools used to gather empirical evidence from the doctors as sample population.

Semi-structured Questionnaire

The primary quantitative tool employed in this study was a semi-structured online questionnaire. The objective of this instrument was to systematically map the linguistic profiles of the participants and identify recurring patterns of communicative difficulty encountered during the mission. The questionnaire was organised into a logical layout comprising four distinct sections: (1) professional and linguistic background, (2) frequency and context of English use in the field, (3) specific communicative challenges in Gaza, and (4) perceived training needs for future missions.

To ensure clarity and high response accuracy, the tool was developed in both English and Arabic. The types of items included five-point Likert-scale questions to identify quantitative trends, as well as open-ended questions designed to elicit qualitative depth (Dörnyei & Taguchi, 2009). The instrument was reviewed by specialists in English for Specific Purposes (ESP) to ensure content validity and clarity of the items. It provides the statistical breadth necessary to support the study's findings. The questionnaire was administered digitally via Google Forms, a method that enables efficient data collection in time-sensitive professional contexts (Dillman, Smyth, & Christian, 2014).

Field Narrative Analysis

Complementing the questionnaire, the study incorporated a detailed, publicly available narrative account published by a participating doctor. This research tool is defined as a qualitative method used to interpret the stories, reflections, and real-time accounts shared by individuals to understand how they make sense of their experiences within a specific

professional context (Riessman, 2008). In this study, the objective of narrative analysis was to move beyond statistical frequency and capture the interactional and contextual nuances of communication, such as the emotional and operational impact of language breakdowns, that structured surveys alone might overlook.

This method was tackled through the systematic examination of authentic professional discourse produced during the 2024 Gaza mission, specifically focusing on the participants' reflective social media updates and their responses to the open-ended sections of the semi-structured questionnaire. By analysing these narratives, the study was able to identify "critical incidents" of communication (Flanagan, 1954) by adapting an online Critical Incident Technique and exploring how the doctors linguistically navigated the high-pressure, trilingual environment of a conflict zone. This qualitative layer ensures that the findings are not only statistically grounded but also contextually rich and representative of the lived reality in the field.

Data Analysis Procedures

Quantitative data were analysed using descriptive statistics to identify patterns in language use and the frequency of communication breakdowns. Qualitative data from open-ended responses and the field narrative were subjected to thematic analysis following the framework proposed by Braun and Clarke (2006). This involved a systematic process of data familiarisation, initial coding, theme development, and refinement. This process resulted in the identification of key themes, including terminological constraints, loss of professional autonomy, and compensatory communication strategies. Finally, discourse analysis was applied to the narrative account to examine how participants constructed the tension between French-based training and English-based operational demands.

Findings

This section presents the key findings derived from both the quantitative and qualitative data analysis.

The Use of English in International Context

The quantitative data confirms a significant reliance on French in academic training, which contrasts sharply with the operational demands of the

mission. The distribution of these linguistic activities across specific professional tasks is detailed in Table 1.

Table 1. *Self-reported English Use in Daily Professional Activities (N = 10)*

Professional Task / Indicator	Frequency (n)	Percentage (%)
Reading medical research/literature	7	70%
Communicating with foreign colleagues	6	60%
Attending conferences or training	7	70%
Writing medical notes or reports	0	0%

As shown in Table 1, participants demonstrate a strong reliance on receptive skills, particularly reading (70%), while productive competencies remain underdeveloped. Specifically, the total absence of clinical writing (0%) highlights a critical gap between academic preparation and real-world clinical communication demands.

This 'productive atrophy' suggests that while practitioners can consume global medical knowledge (receptive), they are effectively silenced when it comes to contributing to it (productive). The 0% engagement in English-language clinical writing indicates that documentation is produced in other languages, which may create a 'linguistic silo' that limits the sharing of Algerian medical expertise with the international humanitarian community.

To further understand this gap, participants were asked to evaluate their own proficiency and the necessity of English in their careers (Table 2).

Table 2. *Self-Assessment and Linguistic Insufficiency (N = 10)*

Survey Parameter	Frequency (n)	Percentage (%)
Rated their Medical English as "Fair" or "Poor"	9	90%
Faced situations where English was insufficient	8	80%
Recognised English as "Very Important" for their careers	10	100%
Believe a specific ESP course is required	10	100%
Language barriers: no noticeable effect on care	9	90%

Note. Participants (N=10) were specialists. 70% had more than 11 years of experience

The data in Table 2 reveals a stark "Proficiency-Performance Gap." Although 100% of participants recognise the critical importance of English, 90% rated their own Medical English as 'Fair' or 'Poor', and 80% have faced professional situations where their language level prevented effective performance. Most significantly, a 'Paradox of Resilience' emerges: while 80% of practitioners admitted that their language level prevented effective performance, 90% simultaneously claimed that language barriers had no noticeable effect on the quality of care. This suggests that the practitioners likely compensated for linguistic deficits through increased cognitive load or 'workarounds' (such as translation apps), maintaining clinical standards at a high personal and professional cost. This internal friction underscores the urgent need for ESP training that aligns self perceived proficiency with objective operational requirements."

Doctors' Communicative Challenges

Data from the Gaza mission section of the questionnaire reveals that English became a situational necessity rather than an academic choice. To address the operational hurdles faced, Figure 1 outlines the core obstacles encountered in the field.

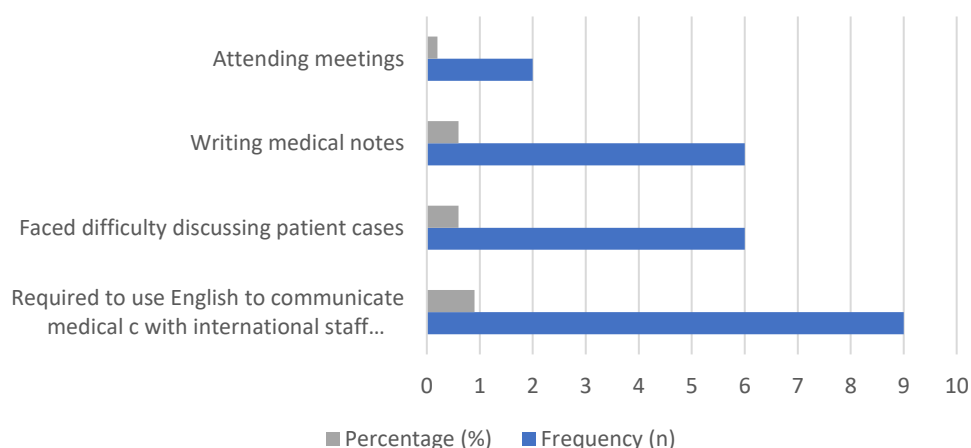


Figure 1. A Bar Chart illustrating Operational Linguistic Challenges During the Mission (n= 10)

As Figure 1 illustrates, 90% of respondents were required to use English to communicate with international staff, 60% faced difficulty discussing patient cases, and 60% faced difficulty writing medical notes. Yet, when asked a general question regarding the impact on care, 90% of respondents reported 'No noticeable effect' (Table 2). However, this general sentiment is sharply contradicted by the respondents' answers to more specific operational questions. For instance, 80% of the same group confirmed they had faced situations where they "couldn't perform effectively" due to language (Table 2). This suggests a 'Perception Gap,' where doctors maintain professional standards through sheer resilience despite significant linguistic friction.

Thematic Insights from Field Narratives

Thematic analysis of the open-ended survey responses and the field narratives, analysed via the Critical Incident Technique, revealed three dominant themes:

A. Terminological Misalignment and "Cognitive Processing Delay"

A primary finding was the difficulty participants faced in reconciling French-based medical training with English-dominant clinical environments. This resulted in a "Cognitive Processing Delay" (described by participants as a "mental lag") during high-pressure situations. One participant described a critical incident during surgery: *"I faced difficulty in requesting surgical instruments because they are all named in English [by the international teams]."* Another respondent noted that even when the medical concept was understood, "French prevails over you (تغلب عليك)" in stressful moments, leading to a delay in producing post-operative reports or coordinating urgent tasks.

B. Loss of Professional Autonomy and Efficiency

Qualitative reflections indicated a sense of professional frustration. The necessity of relying on translation tools or colleagues led to a perceived loss of clinical authority. This was identified as a "Temporal Gap"; the time required for translation created delays in communication that hindered multidisciplinary teamwork during emergencies.

This internal struggle is further evidenced by the high levels of stress reported; while practitioners worked to ensure care was not affected, 20% rated the stress of English communication at the maximum level (5/5), and

50% at a level 4/5. These data explains the 'Perception Gap': care remained stable not because the language was easy, but because the doctors absorbed the stress of the barrier themselves.

C. Compensatory Strategies

To bridge the "Proficiency-Performance Gap" and maintain patient safety during the mission, participants engaged in several compensatory strategies. While these "workarounds" ensured clinical outcomes, they often increased the cognitive load on the practitioner:

- **Translanguaging and Code-switching:** Participants frequently utilized a "Med-Arabi-English-French" hybrid, mixing Algerian Arabic with French and English similar technical terms. This allowed for internal conceptual clarity but created a "communication barrier" when relaying information to international teams who did not share the same linguistic background.
- **Technological Mediation:** There was a heavy reliance on mobile translation applications (e.g., Google Translate). While described as "vital," participants noted they were "*too slow*" for emergency scenarios, highlighting the critical danger of relying on technology during a "Temporal Gap" where every second in the OR or ER counts.
- **Simplified/Non-Verbal Communication:** Practitioners resorted to basic syntax and visual aids, including non-verbal gestures. While effective for immediate task-based actions, this restricted the ability to discuss complex medical nuances or provide detailed psychological support to patients.

Perceived Training Needs

The findings conclude with a unanimous consensus on the need for reform. 100% of participants stated that a specialised Medical English course would be beneficial. When asked to prioritise specific skills, the responses demonstrated a demand for a comprehensive, multi-dimensional curriculum rather than isolated vocabulary lessons:



Figure 2. Distribution of Requested Training Priorities

As Figure 2 demonstrates, specifically, 90% of respondents selected "All of the above" when presented with potential course modules, indicating an overwhelming need for the following core competencies:

- **Emergency Communication:** Highlighting the need for operational speed and accuracy in high-stress clinical environments to prevent the "Temporal Gap."
- **Medical Vocabulary & Report Writing:** Focusing specifically on the naming of surgical instruments and the ability to produce accurate post-operative documentation.
- **International Coordination:** Focusing on the "Medical English as a Lingua Franca" (MELF) aspect of working in multinational multidisciplinary teams.

Ultimately, these findings suggest that for Algerian practitioners, the need for English training is not merely a professional preference, but an operational necessity for ensuring safety and efficiency in international humanitarian deployments.

Discussion

This section interprets the findings in relation to the research questions and the existing literature on English for Medical Purposes (EMP). It examines how the identified linguistic challenges reflect broader structural and

pedagogical issues within the Algerian medical education system. The discussion is organised thematically, addressing key dimensions of linguistic preparedness in international humanitarian contexts.

Reframing Language as Clinical Preparedness

The findings of this study reveal a significant 'Paradox of Resilience.' While 90% of participants claimed language barriers had no noticeable effect on the quality of care, this subjective assessment is challenged by the objective operational data. The fact that 80% of participants reported being unable to perform effectively at times suggests that 'quality of care' was likely maintained through exhausting compensatory strategies such as the heavy reliance on translation apps and 'translanguaging' rather than linguistic competence. The latter points to a possible link between linguistic precision and patient safety; in high-acuity surgical environments, the ambiguity caused by language barriers is not merely a communicative hurdle but a potential source of clinical error. This reframing aligns with emerging perspectives in ESP that emphasise performance-based competence over purely knowledge-based proficiency.

The Structural Misalignment of the Algerian Medical System

A central insight of this research is the stark misalignment between Algeria's French-medium medical education and the English-dominant reality of global medicine. This supports the concerns raised by Hutchinson and Waters (1987) regarding the failure to align instruction with a "Target Situation Analysis." The quantitative results highlight a functional gap: while 70% of doctors use English to read research, 0% use it for clinical writing in their daily practice. This produces a state of passive familiarity where doctors can understand a text but cannot interact effectively in a surgical or emergency setting. The specific confusion between French and English clinical acronyms is not merely a translation error; it is an epistemological barrier that prevents Algerian healthcare professionals from fully integrating into international medical networks. Consequently, Algerian practitioners require competence in Medical English as a Lingua Franca (MELF), prioritising mutual intelligibility and pragmatic clarity over native-like fluency when collaborating with diverse, multinational teams.

Cognitive Processing Load and the Limits of Improvisation

In the absence of formal EMP training, participants relied on compensatory strategies. The qualitative data revealed a "Cognitive Processing Delay" (frequently described as a "mental lag") where the high-pressure environment causes the brain to default to the more dominant L2 (French). As one participant noted, "French prevails over you (تغلب عليك)" during critical moments. While participants used code-switching and translation tools, these strategies are inherently slow. In a humanitarian crisis, where seconds matter, relying on a mobile app to translate a clinical instruction introduces a 'Temporal Gap.' This confirms Long's (2005) assertion that needs analysis must account for the high-velocity demands of the professional workplace, where delays in communication can have immediate consequences. The 'Temporal Gap' created by these survival strategies (e.g., using Google Translate for surgical instrument names) explains why practitioners felt their performance was ineffective. Even if the patient was eventually safe, the delay in communication represents a latent clinical risk. This confirms that the absence of a 'noticeable effect' on care does not equate to linguistic preparedness; rather, it indicates a high-stakes reliance on improvisation that is unsustainable in long-term humanitarian deployments. This reinforces the argument that general English is insufficient; doctors require a specialised, automated command of medical discourse to maintain pace in high-pressure teams in addition to a need for 'Digital Linguistic Literacy,' where doctors are trained to integrate AI-mediated translation tools as efficient secondary supports rather than primary, time-consuming crutches.

Professional Autonomy and the Socioeconomic Dimension

An overlooked consequence of linguistic barriers is the erosion of professional autonomy. When senior specialists must rely on intermediaries or simplified language, their clinical authority is diluted. Qualitative reflections indicated that doctors felt frustrated or inadequate when they could not accurately defend a clinical decision in English. From a socioeconomic perspective, this has broader implications for Algeria. If the country's top medical professionals are limited by language in international contexts, these findings suggest that Algeria may face limitations in opportunities for medical diplomacy and international research leadership. Improving language preparedness is therefore not

only about individual skill but about enhancing the global competitiveness of the Algerian healthcare system.

Emotional and Ethical Strain

The questionnaire and the field narrative point to a significant “Affective Filter.” In the questionnaire, 70% of doctors rated the stress of English communication at 4 or 5 on a five-point scale, and the narratives describe professional frustration when language barriers hindered their ability to provide care. This extends traditional ESP models by incorporating the emotional and ethical dimensions of professional communication. For a doctor, the inability to communicate is not just a learning lack; it may be perceived as a stumbling block to fulfil their ethical duty to the patient.

This is further supported by the open-ended responses, where participants who initially reported 'no effect' on care later described 'real problems' such as the inability to provide accurate post-operative reports or the stress of not being understood by international staff. This may reflect a professional bias in which doctors are reluctant to admit clinical disappointment, even when their answers to more specific operational questions suggest a clear linguistic barrier.

Towards a Needs-Based EMP Curriculum

The 100% consensus among participants regarding the necessity of a specialised EMP course provides strong evidence for curriculum reform. The findings suggest that this course should move beyond medical vocabulary and focus on operational skills. Specifically, 90% of participants identified all the skills as vital, with emergency communication and coordination with international staff as the highest priorities. This directly supports the thesis that Algerian EMP training must be task-based and grounded in real-life communicative scenarios.

Limitations of the Study

While this study provides valuable insights, several limitations must be acknowledged. First, the sample population (N=10) is relatively small, which may limit the generalisability of the findings to the wider Algerian medical community. Second, the unique context of the Gaza mission, a high-intensity conflict zone, may produce linguistic stressors not found in standard clinical environments. Third, the research design relied on self-

reported data, which may introduce subjective bias. Finally, the instrumentation, while effective for an exploratory study, primarily captures retrospective reflections. Future research should incorporate larger samples across multiple missions and specialisations to further validate these findings.

Conclusion

This study investigated the linguistic preparedness of Algerian healthcare professionals in international humanitarian contexts, using the 2024 Gaza mission as a critical case study. The findings reveal a significant mismatch between training and operational demands between the French-medium medical education historically provided in Algeria and the English-dominant operational demands of global emergency medicine.

The data demonstrates that while Algerian doctors possess strong receptive skills in academic English, they face severe communicative barriers in real-time clinical interaction. The 80% who reported being unable to perform effectively, the 60% who reported difficulty coordinating surgical and clinical tasks, and the 100% consensus on the need for specialised training strongly suggest that language should be considered not merely a pedagogical concern but also a potential factor in clinical safety and professional autonomy. Ultimately, this research argues that linguistic preparedness must be recognised as a core component of medical competence. By addressing these gaps, Algeria can better equip its healthcare professionals to lead and collaborate in the global medical arena, ensuring that their clinical expertise is never hindered by a language barrier. This positions linguistic competence not as an auxiliary skill, but as a critical dimension of clinical effectiveness in global healthcare systems.

These findings may also hold relevance for other multilingual and postcolonial medical education systems undergoing similar transitions.

Recommendations

The findings of this study necessitate a multi-level approach to reform, spanning both pedagogical design and national institutional policy. To bridge the identified "Productive Atrophy" and better prepare Algerian medical professionals for international deployment, the following recommendations are proposed to align training with the realities of global humanitarian and clinical practice.

Pedagogical Recommendations: Toward a Task-Based EMP Curriculum

Following established ESP frameworks for medical practitioners, it is recommended that curricula prioritise operational clinical fluency over purely academic knowledge. Such a programme should be developed by incorporating the course design cycle proposed by Graves (1996) to ensure the training remains responsive to the doctors' evolving field needs. Specifically, curricula must prioritise emergency communication by moving beyond general medical vocabulary to focus on high-pressure communicative tasks, such as triage, rapid clinical handovers, and surgical coordination. This approach directly prioritises patient safety by reducing the risk of clinical errors stemming from linguistic ambiguity in high-acuity environments.

Furthermore, it is essential that training explicitly integrates international standards to address the transition from French medical terminology (e.g., IDM) to international English standards (e.g., MI). This ensures epistemological alignment with global teams and fosters competence in Medical English as a Lingua Franca (MELF), where the focus is on mutual intelligibility within multinational, non-native speaking cohorts. To bridge the gap between theory and practice, EMP instruction should utilise simulation-based learning, including clinical role-playing of multidisciplinary rounds, to build operational fluency and reduce the "affective filter" or stress associated with English use in crisis zones. Finally, there must be a definitive focus on productive skills, shifting the pedagogical balance from passive reading toward active spoken interaction and clinical writing. This should include "Digital Linguistic Literacy," training practitioners to use AI-mediated translation tools as efficient secondary supports without compromising the speed of clinical decision-making.

Policy and Institutional Recommendations

Structural changes at the institutional level are equally vital to sustain linguistic readiness across the Algerian healthcare sector. First, there must be a strategic alignment with national reform; medical faculties should accelerate the integration of English as a Medium of Instruction (EMI) within clinical modules to support Algeria's strategic shift toward globalised higher education and research. Secondly, institutions should

establish Continuing Professional Development (CPD) programmes where hospitals and medical associations offer "Language for Humanitarian Missions" workshops as mandatory pre-departure training for doctors engaging in international service.

Lastly, to ensure these solutions remain evidence-based, there is a clear need for methodological triangulation in future research. Further large-scale studies are required to map these linguistic needs across diverse medical specialities and different provinces in Algeria. In the interim, the findings of this exploratory study provide a robust empirical foundation for a comprehensive, task-based Medical English as a Lingua Franca (MELF) curriculum, which is currently under development by the researchers to address the immediate operational realities of Algerian practitioners. Ultimately, these reforms are not merely educational; they are essential for enhancing the global competitiveness and humanitarian effectiveness of the Algerian healthcare system.

AI Use Disclosure Statement

AI Tools were used in a limited capacity to support language editing and improve clarity of expression in this manuscript. No AI tools were used in the collection, analysis, or interpretation of data. The authors take full responsibility for the content and integrity of the work.

Ethical Considerations

This study was conducted in accordance with established ethical research standards and received formal ethical approval from the Department of English Language and Literature, Faculty of Letters and Languages, University of Mustapha Stambouli, Mascara. All participants provided informed consent prior to participation. Their responses were anonymised to ensure confidentiality. Participation was voluntary, and participants had the right to withdraw at any stage. No identifiable personal data is included in this research.

References

- Abu Safiyeh, H. (2021). *Analyzing the English for Specific Purposes needs of medical students at Hebron University* (Master's thesis, Hebron University). Retrieved from <http://dspace.hebron.edu:8080/xmlui/handle/123456789/940>
- Belaskri, K. (2017). The linguistic gap in doctor-patient communication in Algeria. *Lublin Studies in Modern Languages and Literature*, 41(2), 1–11. doi:10.17951/lsmll.2017.41.2.1
- Benrabah, M. (2013). *Language conflict in Algeria: From colonialism to post-independence*. Bristol, England: Multilingual Matters.
- Bououden, F., & Rouaghe, F. (2025). English for Medical Purposes: Identifying learning needs of second-year medical students at the University of Bejaia, Algeria. *ALTRALANG Journal*, 7(1), 342–353.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. doi:10.1191/1478088706qp063oa
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). Thousand Oaks, CA: SAGE.
- Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). *Internet, phone, mail, and mixed-mode surveys: The tailored design method* (4th ed.). Hoboken, NJ: Wiley.
- Dörnyei, Z., & Taguchi, T. (2009). *Questionnaires in second language research: Construction, administration, and processing* (2nd ed.). New York, NY: Routledge.
- Dudley-Evans, T., & St John, M. J. (1998). *Developments in English for specific purposes: A multi-disciplinary approach*. Cambridge, England: Cambridge University Press.
- Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, 51(4), 327–358. doi:10.1037/h0061470
- Ghounane, N. (2023). English as the Language of Scientific Research in Algeria. *مجلة تطوير العلوم الاجتماعية*, 15(2), 204–215. Retrieved from cerist.dz
- Graves, K. (1996). *Teachers as course developers*. Cambridge, England: Cambridge University Press.
- Hutchinson, T., & Waters, A. (1987). *English for specific purposes: A learning-centred approach*. Cambridge, England: Cambridge University Press.

- Hyland, K. (2009). *Academic discourse: English in a global context*. London, England: Continuum.
- Laggoun Belhoul, R., & Benmoussat, S.(2023). Switching between two foreign languages in English for medical purposes course: Impact on medical terminology and vocabulary comprehension. *ALTRALANG Journal*, 5(3), 242–258. doi:10.52919/altralang.v5i3.365
- Long, M. H. (2005). *Second language needs analysis*. Cambridge, England: Cambridge University Press.
- Munby, J. (1978). *Communicative syllabus design*. Cambridge, England: Cambridge University Press.
- Outemzabet, B., & Sarnou, H. (2023). Exploring the significance of English-based communication for a community of medical academics in a public university teaching hospital in Algeria. *English for Specific Purposes*, 70, 116–130. doi:10.1016/j.esp.2022.12.001
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533–544. doi:10.1007/s10488-013-0528-y
- Paltridge, B., & Starfield, S. (Eds.). (2013). *The handbook of English for specific purposes*. Chichester, England: Wiley-Blackwell.
- Rezig, N. (2011). Teaching English in Algeria and educational reforms: An overview on the factors entailing students' failure in learning foreign languages at university. *Procedia - Social and Behavioral Sciences*, 29, 1327–1333. doi:10.1016/j.sbspro.2011.11.370
- Riessman, C. K. (2008). *Narrative methods for the human sciences*. Thousand Oaks, CA: SAGE.
- Tweedie, M. G., & Johnson, R. C. (2018). Listening instruction and patient safety: Exploring medical English as a lingua franca (MELF) for nursing education. *Journal of Belonging, Identity, Language, and Diversity (J-BILD)*, 2(1), 75–100.
- Woodrow, L. (2017). *Introducing course design in English for specific purposes*. London, England: Routledge.
- Zemali, S., & Naoua, M. (2025). Investigating the impact of needs analysis on ESP test development: Insights from Algerian universities. *القارئ الأدبية والنقدية واللغوية*, 8(2), 225–234.