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THE CHALLENGE OF ADDRESSING PANDEMIC COMMUNICATION IN ESP: THE CASE OF COVID-19 POSTERS IN UNIVERSITY CONTEXTS

Abstract

The COVID-19 pandemic has triggered significant changes, configuring a new communicative dimension within the field of ESP called pandemic communication (PanCom). Its cyclical, multisemiotic, context-dependent, and wide-ranging nature often causes ambiguities and difficulties in understanding and learning. Its distinctive peculiarities are extraordinary and complex for the population in stages of socio-health crisis and a focus of intrigue and challenges for language analysts, translators, teachers, and students. This study first examines the lexical-semantic, functional, and multisemiotic complexities of pandemic communication in a corpus of posters displayed within and around several British university premises during the pandemic. Additionally, it explores its degree of receptive complexity through a survey completed by a sample of undergraduate students from Spanish universities. By focusing on the comprehension, acquisition and instruction of this communicative dimension, the results highlight key linguistic aspects of pandemic communication that could pose learning difficulties and challenges, such as polysemic meanings, multifunctionality in speech acts and politeness strategies, as well as multiple modes of meaning conveyed by visual metafunctional elements. The findings may also help the ESP community to comprehend this language dimension better and be prepared for health crises that may arise in the future.

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Key words

English for specific purposes, pandemic communication, pandemic posters, cross-disciplinary skills, university communication, English for medical purposes.

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1. INTRODUCTION

In January 2020, institutions such as universities were forced to adapt and implement their informative and interactive mechanisms to overcome adversity and keep their services active during the COVID-19 pandemic (Mohlman & Basch, 2020, p. 2253). Messages were quickly communicated through conventional and modern technological genres, most urgently adapted to the new critical situation (O'Halloran et al., 2021, p. 2). Relevant messages were conveyed by distinctive communicative codes carrying specific meanings, connotations, implications, and illocutionary forces. Given the wide expanse of communicative resources and unusual receptive and interpretive skills required, severe difficulties in understanding these health crisis messages arose and continue to exist in places where these crises may occur.

This complexity extends and may be a component for students of English when they attempt not only to learn and use but also to examine the distinctive features of what has been named "pandemic communication" (Knight, 2020, p. 132). Pandemic communication has also been referred to in the past in several important epidemic episodes, being configured as a multisemiotic, context-induced communicative dimension of an evolutive nature triggered by the exceptional circumstances of a pandemic (Croucher & Diers-Lawson, 2023; Hays, 2005; Jones et al., 2010; Krzyżanowski & Krzyżanowska, 2022). Its multisemiotic character involves the major meaning-making systems. It also develops according to the pandemic life cycles, reformulating and transforming most social and institutional genres.

Over the past four years, pandemic communication has emerged as a pervasive, ubiquitous, and leading-edge domain that, by its configuration, would fall within the established field of English for Specific Purposes (ESP), particularly in the context of tertiary education. Indeed, pandemic communication (henceforth referred to as 'PanCom') represents an innovative area of specialised communication that bridges consolidated branches of ESP, including English for Medical Purposes, English for Safety and Health, and English for Emergency Management. Basturkmen (2021, p. 55) emphasises that the core objective of all ESP domains is to equip students and professionals with the "particular set of linguistic competencies" necessary to advance in their academic and occupational fields. During pandemics, the ability to continue studies and work relies heavily on the development of specific PanCom skills, as outlined in this article. Medical English experts argue that contemporary medical communication necessitates the effective integration of innovative approaches from the Humanities and Applied Linguistics (Bellés-Fortuño, 2018; Daniele, 2020). ESP experts also remark on the increasing diversification of practice within this progressively broader field (Hyland, 2022). PanCom exemplifies this ongoing trend of diversification and integration of medical practices within the realm of language education. Its critical role in health and safety

emphasises this essential and necessary reciprocity across university and professional training domains (Skelton & Richards, 2021; Tseligka & Koik, 2021).

Given its presence across all communication-related disciplines, PanCom bears relevance to numerous current topics in ESP. These can include needs analysis (Ruiz-Garrido & Molés Julio, 2021), curriculum implementation and innovative teaching methods (Hyland, 2022), linguistic skills development (García-Ostbye & Martínez-Sáez, 2023), expansion of specialised vocabulary (Sattarpour et al., 2024), identification of professional genres and text types from a contrastive perspective (Florek & Hendges, 2023), responsiveness to digitalisation and multimodal intricacy (Guillén-Galve & Vela Tafalla, 2023), critical skills, persuasion, and credibility awareness (Dontcheva-Navratilova, 2023), as well as the enhancement of contact linguistics and interdisciplinary professional practices (Alrahaili et al., 2022). Consequently, the exploration of PanCom has the potential to significantly enhance ESP across its entire spectrum, particularly in university-level instruction.

In this context, the present research examines the complexity of pandemic communication to facilitate its comprehension, interpretation, and learning. As PanCom remains a still relatively underexplored area of research within linguistics, the study focuses on one of its most predominant and omnipresent genres, the pandemic poster. This multifunctional genre is analysed as it was displayed on and around university campuses during the COVID-19 pandemic. Its receptive complexity is also tested through a complementary survey aimed at undergraduate students from Spanish universities. This survey was run over two consecutive years to observe any diachronic variations in receptive perception.

Hence, the first part of the article delves into the distinctive features of PanCom, followed by an introduction to the genre of pandemic posters. The second part is dedicated to analysing a sample of PanCom posters within university premises and examining their understanding and interpretation by Spanish universities students.

2. LITERATURE REVIEW

2.1. The complexity of pandemic communication

PanCom's inherent multisemiotic and human-distancing nature has contributed to the pervasiveness of multimodality and technology in everyday communication and the analytical complexity of current interpersonal communication (Padilla & Padilla, 2023). Research on PanCom published over the last four years has also highlighted its lexical-semantic scope, compound functionality, and extensive multisemiotic coverage as its most salient and distinctive features.

2.1.1. The lexical-semantic scope

As already observed (Bolotina, 2020; Voskresenska & Gulik, 2021), PanCom has integrated neologisms by blending, compounding, and in the form of cultisms. Loans and calques have also become systematised in everyday language, particularly metaphor-based neologisms (Haddad Haddad & Montero-Martínez, 2020; Kövecses, 2020; Ruiz de Mendoza, 2021). In the case of metaphor and metonymy, even before the pandemic, Larson (2011) noted that these figures of speech were able to bring technical concepts related to medicine closer to ordinary citizens (Kashanizadeh & Forceville, 2020).

Synonymy and polysemy may be a source of ambiguity, bias, and misunderstanding. Evans and Green (2018), in pre-pandemic times, already emphasised the metaphor-related polysemy of the term *coronavirus*, which is frequently associated with warfare (enemy), wildlife (animal), and social safety (criminal). During the pandemic, Augustyn and Prazmo (2020) analysed the meaning interpretation of three pseudo-synonyms of the virus (e.g., Chinese virus, Wuhan virus, and Asian virus) in a corpus of Internet discourse, highlighting the intense ambiguity and polysemy of these expressions, often used with apparently derogatory and even xenophobic connotations. The hostility and catastrophism with which the data associated with the pandemic were expressed, particularly through online and social media, reached such levels that even the World Emergency COVID-19 Ethics Committee (WeCope¹) recommended avoiding war connotations associated with the virus in official organisations and media. Kang and Kwon (2024) examined the expression *flattening the curve* and found that a high proportion of pandemic-related vocabulary was prone to changing its significance depending on the diverse semantic frames of use.

When learning and teaching PanCom, the complexity of the above lexical-semantic casuistry needs to be considered, bearing in mind its evolutionary nature that alters meanings and interpretations, both on cognitive and emotional levels (Laurino et al., 2023). González-Herrero and Pratt (1996) studied the life cycle of the SARS crisis, differentiating four stages, each of them influencing all crisis management communication processes. Montariol et al. (2021) analysed a corpus of 500k news articles related to COVID-19 and identified a semantic shift in some keywords depending on their frequency of use as the pandemic evolved in 2020. At the beginning of the year, the word *strain* clustered with the terms Wuhan and China, while in mid-2020, it collocated with health, care, and hospital.

It is foreseeable that the lexical, cognitive, and psychosocial meaning of all this vocabulary is changing even more in this post-pandemic phase, which seems fundamentally marked by a global strategy of distancing and denying the coronavirus in daily life (Bennett & Jopling, 2022).

¹ World Emergency COVID19 Pandemic Ethics (WeCope) Committee. (2020). *A call to cease the use of war metaphors in the COVID-19 pandemic*. Eubios Ethics Institute. https://www.eubios.info/assets/docs/WeCope_Call_to_Cease_the_War_Metaphor.167174242.pdf

2.1.2. The functional scope

Communication with the public is vital throughout a health crisis process. As Coombs (1999, p. 44) underlines, in the pre-crisis stage, essential communicative functions are prevention, risk aversion, and relationship building. In the crisis stage, key functions include damage recognition and containment. The post-crisis stage covers crisis management appraisal and image and compliance recovery. Characteristic functional variables of PanCom's behaviour have intervened to make these prevention, containment, and appraisal processes possible, such as the force and accessibility of the messages.

Ideological, attitudinal, and behavioural factors that contribute to successfully managing a pandemic depend on the message's force predominantly expressed in the form of speech acts and a significant number of positive and negative politeness strategies. This multifunctional nature may challenge adequate and effective politeness mechanisms, easily leading to contradictory interpretations in highly sensitive and emotional contexts.

2.1.3. The multisemiotic scope

The ability to transmit information effectively depends on the accessibility of these messages, whose interpretation and memorisation depend on the ease and promptitude of their transmission (e.g., attention-grabbing photographs, drawings, diagrams, symbols, colours, lights, etc.).

Owing to the new developments in the Visual Grammar theory (Kress & van Leeuwen, 2006) applied to pandemic communication (Isalambo & Kenneth, 2020; Padilla & Padilla, 2023), crucial visual elements dependent on the interactants (e.g., gaze, facial expressions, gestures, and movements) and the composition (e.g., angle, colour saturation, differentiation and modulation, perspective, illumination, brightness) have been identified.

Semiotic preferences for this generation of university students are based on immediacy and effectiveness (Hu & Wang, 2023). During the pandemic, their dependence on social networks went beyond the personal sphere, strongly impacting their academic lives. The pandemic poster exemplifies this generalised multisemiotic interrelation and prevalence in educational environments. Although college students of this generation are already accustomed to communicating through different codes combining language with signs, images, symbols, and other representations (Hafner, 2020), it is not always an easy task to address multimodal communication forms in ESP (Guillén-Galve & Vela Tafalla, 2023). Hence, the detailed analysis and adequate interpretation of these pandemic multisemiotic messages remain a challenge, particularly for the language student.

2.2. Pandemic posters

The poster genre is a common type of communication in the daily lives of citizens and students that encompasses many functions and has a complex typology. In most urban areas, social, political, advertising, and corporate or institutional posters, among others, are often displayed. In university environments, informative, educational, and instructive pandemic posters have also been frequently exhibited, such as the ones illustrated below:



Example 1. A poster displayed at a faculty entrance



Example 2. A poster displayed in a faculty bathroom

This multifaceted nature turns the poster into a familiar and everyday communicative genre with exceptional potential for outreach and impact on the population during health and security crises (Barron, 2012). Experts from both medicine (Hasanica et al., 2020) and linguistics (Al-Subhi, 2024) have observed that, in extreme pandemic contexts, the subgenre of the public health and safety poster (e.g., pandemic poster) brings together the functions of other poster subgenres (e.g., educational, advertising, institutional). The pandemic poster covers domestic, workplace, and social health awareness, individual responsibility, prevention of disease transmission, patient hygiene and healthcare, vaccination campaigns, healthcare locations, and action protocols, among many other purposes. This multifaceted nature correlates with its multifunctional and multisemiotic disposition. Aside from informing, guiding, warning, alerting, instructing, and persuading through words and graphic symbols, it incorporates all possible multisemiotic resources, even for seemingly simple actions like handwashing (Hamilton, 2022).

The strategic role of the poster has been examined from contrastive multimodal perspectives using corpus linguistics in many studies, such as that of Zhang (2018), on posters displayed in the cities of New York and Hong Kong. Public health posters' multifunctional and multisemiotic complexity has also given rise to recent pragmatics and corpus analysis studies. For example, Guo and Li (2020) and Isalambo and

Kenneth (2020) highlight how some compositional features are critical in the impact of pandemic messages in China and Kenya, respectively. Also, Aning (2021) underlines how a poster's multimodality controlled Ghanaian viewers' attention toward the images and influenced their attitude toward the textual codes, opening a vast niche for research in its multiple configurations and contexts worldwide.

3. METHOD AND DATA

A corpus of 70 health and safety posters on the COVID-19 pandemic displayed in British state universities² was compiled during the academic year 2020-2021. A classification was made on the basis of different situational contexts in which posters were more prominently located within and around university premises (e.g., offices and administration, classrooms, libraries, restaurants and meeting points, transitory areas, leisure and sports facilities, toilets, transport, and campus premises).

The poster database was uploaded to ATLAS.ti 8 software (2018), which enabled an in-depth analysis. It was manually tagged considering different linguistic categories corresponding to three main linguistic dimensions that, in our view, seem to characterise pandemic communication: lexical-semantic, functional, and multisemiotic. In this regard, it is important to point out that our analysis was only based on those linguistic categories that were explicitly observable in the dataset analysed. For example, for the lexical-semantic dimension, the posters were tagged considering the observable lexical-semantic categories, such as frequency-shifted terms, polysemy, and synonymy. Other categories that were not directly observable in the dataset, such as neologisms, loans, or calques, were discarded at this stage of the analysis.

ATLAS.ti provided us with absolute frequencies of the number of posters in which a particular category was identified. The relative frequency was also calculated by dividing the absolute frequency of each category within a linguistic dimension by the total number of posters selected for the corpus.

To objectify and narrow down the scope of the methodology, this analytical framework focused on the following PanCom distinctive categories drawing on different theoretical frameworks used as a reference for the analysis, as indicated in the parentheses:

a) lexical-semantic categories (Geeraerts, 2010): frequency-shifted terms, polysemy, and synonyms.

b) functional categories (Brown & Levinson, 1987; Scollon et al., 2012; Searle, 1976): speech acts and linguistic politeness.

² The posters were displayed in open access areas in and around British state universities, which will remain anonymous. To ensure anonymity, their names and logos have been removed.

c) multisemiotic categories (Kress & van Leeuwen, 2006, 2021): representational, interactive, and compositional meaning.

The same 50-question survey was conducted in two different academic years, corresponding to the peak of the pandemic (2021-2022) and a more distant pandemic period (2022-2023), to gather information on students' perceptions of the PanCom's evolutionary nature. This survey was created using Google Forms and administered to 100 university students³ in their last two academic years of translation and modern languages studies in Spain. Their minimum level of English was C1. The initial 22 questions were designed to gather general information on students' perspectives regarding behavioural, contextual and time-related changes brought about by the COVID-19 pandemic in both social and academic communication (e.g., question 1: "Compared to 2019 [before the pandemic], what changes do you perceive in your behaviour or the behaviour of your family and friends on a social level?"). The subsequent 28 questions were specifically structured around the three methodological dimensions that form the foundation of our research (see the Appendix):

- a) PanCom's lexical-semantic dimension (questions 23-29). For example, question 25: "During the COVID-19 pandemic, many multimodal texts included keywords to convey social cohesion and community, health, and protection to politely ask citizens to wear face masks, keep social distance, etc. In your opinion, were these messages clear? Or have you ever interpreted these messages as contradictory? If yes, please indicate if the possible ambiguity could lie in the text, in the image, or may be caused by both."
- b) PanCom's functional dimension (questions 30-46). For example, question 36: "When reading and interpreting posters on preventive health messages, do you think you are being informed, advised, recommended, warned, instructed, or a mixture of the above?"
- c) PanCom's multisemiotic dimension (questions 47-50). For example, question 49: "Do you think the textual and visual images included in the following poster from a British university may be considered effective in times of pandemics?"

4. RESULTS AND DISCUSSION

This section interrelates the analysis and discussion of the findings obtained from the corpus of pandemic posters and the survey distributed among undergraduate Spanish students. The findings are divided into three main sections, each corresponding to the typology of distinctive linguistic features in PanCom.

³ All students participating in the study signed their informed consent to process and display the results.

4.1. PanCom's lexical-semantic dimension

As regards PanCom's lexical-semantic dimension, Table 1 shows the frequency of the main lexical-semantic categories observed in the dataset analysed: (a) *frequency-shifted terms*, (b) *polysemy*, and (c) *synonyms*:

PanCom's lexical-semantic dimension	Absolute frequency n/70	Relative frequency
Frequency-shifted terms	55	0.78
Polysemy	54	0.77
Synonyms	60	0.85

Table 1. Frequencies in PanCom's lexical-semantic dimension

As illustrated in Table 1, the findings highlight high frequencies in the three lexical-semantic categories under examination. Following Goddard and Wierzbicka (2021), the COVID-19 pandemic has triggered the emergence of terms and expressions, which are distinctive of specific jargon (e.g., curfews, confinement, mask, quarantine). Likewise, medium-frequency usage terms, such as life episodes of illness or alarm periods (e.g., face covering, hygiene, infection, protection, safety, social distance), have adopted a generalised use during the pandemic.

Words and expressions used in other daily situational contexts have adopted different meanings during the COVID-19 pandemic, which may be susceptible to creating polysemous meanings (e.g., be respectful, protect yourself, risk area, sanitise your hands). As for the synonyms, these have often been represented in pandemic posters with the incorporation of multimodal elements, like images accompanying the textual message (e.g., 'Please, use hand sanitiser' and a hand-washing icon). However, the reception and interpretation of these lexical-semantic categories by citizens, in general, and by undergraduate students, in particular, deserve to be explored. Some examples drawn from the corpus (3-4) can illustrate our findings:



Example 3. Medium-frequency terms



Example 4. Medium-frequency terms and polysemy

In the initial survey (2021-2022), students' responses uncovered interesting findings concerning PanCom keywords to convey *social cohesion* and *community*, *health*, and *protection* in pandemic posters to politely ask citizens to follow preventive rules, revealing an apparent complexity when decoding the message⁴ (e.g., *Not clear. Maybe they should explain their intention about what they mean by 'together' [...]*).

In the academic year 2022-2023, these PanCom messages seemed to be less misleading to students than in the previous year. Nevertheless, their comments still revealed the ambiguity that presumably lies behind the messages. Some of the students even pointed out the essential need to incorporate an image to disambiguate the meaning of the text (e.g., *I think it is clear, although there could be some misunderstanding arising from the inclusion of '+together', as someone could take it to imply that we should stay physically close [...]; I guess some people could get confused if there's no image [...]*).

As observed, PanCom's lexical-semantic categories frequently involve the insertion of prevention and safety-related messages in unusual environments, which may be a source of confusion, contradiction, and semantic inferences. These findings may lead to a conclusion that ESP teaching and learning should be more systematic for students to be able to disambiguate the inherent contradictions of expressions incorporated into the written messages of COVID-19 pandemic posters.

Nowadays, teachers can use varied linguistic frameworks and perspectives to help students identify and correctly interpret PanCom's lexical-semantic categories. As a context-induced and context-dependent dimension, PanCom's frequency-shifted terms, synonymy, and polysemy could be explored through, for example, *lexical semantics* (Geeraerts, 2010), together with the notions from *frame semantics* (Fillmore & Baker, 2010) such as *domain* or *cognitive model* (Lakoff, 1987; van Dijk, 2006, 2008). For instance, the seemingly contradictory words and expressions included in pandemic posters could be better interpreted by understanding the background frames motivating the concept that a PanCom word encodes within a particular context.

These findings may suggest the need to implement some of the previously mentioned linguistic notions in the teaching curricula of modern languages and linguistics degrees, particularly when approaching the teaching and learning of the most prevalent lexical-semantic categories of health and safety crisis genres like the pandemic poster.

⁴ Some quotes from the students' responses are verbatim, which is why the examples may contain some grammatical mistakes or spelling inconsistencies.

4.2. PanCom’s functional dimension

As for PanCom’s functional scope, the attention was mainly on the analysis of speech acts and linguistic politeness strategies in the corpus of COVID-19 pandemic posters, which will be addressed in the subsections which follow.

4.2.1. Speech acts

Drawing on Searle’s (1976) taxonomy, Table 2 shows the frequency of directive and assertive speech acts, which have been the ones observed in the corpus of pandemic posters.

PanCom’s functional dimension: Speech acts	Absolute frequency n/70	Relative frequency
Assertive speech acts ‘statements’	8	0.11
Directive speech acts ‘commands’	33	0.47
Directive speech acts ‘requests’	22	0.31
Directive speech acts ‘suggestions and recommendations’	4	0.05

Table 2. Frequencies in PanCom’s functional dimension: Speech acts

As can be seen in Table 2, *commands* appear with the highest frequency in the corpus, followed by *requests*. Albeit with low frequencies, assertive speech acts in the form of *statements* rank third in the frequency-rank distribution. Regarding *suggestions* and *recommendations*, very few occurrences have been encountered. As has been pointed out in other studies (Aning, 2021; Khniab & Ahmed, 2023; Raheem & Nehal, 2021), the findings may indicate that, given the emergence of situational awareness caused by the pandemics, speech acts of a more direct interactional nature (e.g., commands and requests) may be constrained by the conventional characteristics of the pandemic poster genre.

4.2.2. Linguistic politeness

Following Brown and Levinson (1987) and Scollon et al. (2012), *negative politeness* signals that the speaker recognises the hearer’s fundamental right to autonomy (e.g., apologising, being indirect, not coercing, impersonalising, etc.). Inversely, *positive politeness* highlights that the speaker wants, needs, and appreciates the same things as the hearer (e.g., in-group identity markers, avoiding disagreement, exaggerating interest, etc.). As regards our corpus, we have observed both positive (e.g., giving reasons, attention to the viewer, and in-group identity markers) and negative

politeness strategies (e.g., depersonalised strategies, and directive speech acts in the form of requests), whose frequencies are included in Table 3 below.

PanCom's functional dimension: Linguistic politeness	Absolute frequency n/70	Relative frequency
Positive politeness 'attention to viewer'	17	0.24
Positive politeness 'give reasons'	21	0.3
Positive politeness 'in-group identity markers'	4	0.05
Negative politeness 'depersonalisation'	8	0.11
Negative politeness 'requests'	19	0.27

Table 3. Frequencies in PanCom's functional dimension: Linguistic politeness

As for positive politeness, the imposition drawn from the verb incorporated into the written message is supported by linguistic markers that give an account of why the completion of the action is relevant and similarly the benefits that the viewer can obtain in return. However, very few frequencies were found in the case of 'in-group identity markers'. Regarding negative politeness, minimising imposition through *requests* is the most frequently used category. Albeit with much lower frequencies, *depersonalisation* is reflected in the use of *nominalisations*, *agentless passive structures*, or even *verbs in the infinitive form*. Through these lexical-grammatical markers, both the anonymous writer (e.g., institution) and the viewer are hidden in the discourse, thus softening the illocutionary force of the speech act.

A more in-depth observational analysis of our dataset has revealed how different speech acts and positive and negative politeness strategies appear to fluctuate within the same PanCom poster, as has also been demonstrated in previous research on pandemic posters (Wei, 2023). This finding may be parallel to the answers provided by students during the academic year 2021-2022. For instance, 43.9% of the students felt they were being advised, recommended, informed, and instructed, followed by 26.8% of the total number of students who perceived a mixture of different speech acts. Furthermore, 19.5% of the students thought they were either commanded or warned, and the remaining 7.3% highlighted difficulties when deciphering the meaning of a speech act.

As for the answers gathered in the following year (2022-2023), students' comments also pointed out the different types of registers when it comes to interpreting the message of pandemic posters. For example, 45.5% of students interrelated the message with a professional register, 39.7% considered the register used as social, 16.5% rendered it as amicable, 12.4% interpreted it as frozen, 5% observed a mixture of different types, and 2.5% correlated the poster's message with a more intimate type of register. This variation may be prone to difficulties when understanding the message's function (e.g., this is *a mixture of social and*

professional variation; but it could be in my opinion amicable because it talks about being respectful and keeping safe the community [...].

Concerning the communication strategies that make students feel more involved in the message, most of them select *nominalisations* (i.e., negative politeness) and *drawing attention to the viewer* (i.e., positive politeness) as the most prevailing language mechanisms (e.g., It is *the most common affirmation* 'use of a mask is 'mandatory', and we are too close, and we are getting used to it [...]; *The word community* might produce a *higher degree of involvement* [...]).

Regarding the linguistic mechanisms applied to transmit imposing messages, *nominalisation* appears to be the most common option (e.g., the use of a mask) with images of faces looking directly at the viewer. Similarly, they considered *passive agentless structures* (e.g., Face masks must be worn.) as an imposing strategy. Verbs in the imperative mood were also selected as more enforcing (e.g., Wash your hands). In light of these findings, it appears that negative politeness strategies are not generally preferred by the sample of Spanish university students when they must act according to PanCom poster messages, as they make them feel more obliged to act (e.g., It is *more objective* than the others because *the text is more frozen*, that is, it is *not appealing* [...]). Notwithstanding, they also viewed *nominalisations* as involving strategies, leading to seemingly contradictory ideas.

The findings obtained could make us reflect upon the methodological intricacy when examining this type of multisemiotic genre in the context of pandemic communication. PanCom's interpretation depends on the treatment of face-threatening acts and politeness strategies and the identification of potentially ambiguous, controversial, and misleading messages. Consequently, delving into Speech Act and Politeness theories (Alba-Juez & Mackenzie, 2016; Brown & Levinson, 1987; Scollon et al., 2012) may be worth implementing in teaching curricula, adapting them to the context of pandemic communication.

The following examples from the poster dataset include positive politeness, like giving reasons to support the direct speech act (example 5) and indicating protection and attention to viewers (example 6):

(5) Open the window *to increase ventilation*.

(6) Compulsory use of face mask. *For you, for me*.

As for negative politeness, the examples below incorporate a request (example 7), a passive sentence (example 8), an impersonal structure (example 9), and nominalisation (example 10):

(7) *Please, keep your distance* from others where possible.

(8) Face masks *must be worn*.

(9) *Sitting* is not allowed.

(10) *The use of a mask is mandatory.*

Example (11) includes both a suggestion and a request, thereby revealing a fluctuation of positive and negative politeness strategies. Example (12) shows a directive speech act in the form of a command along with positive politeness strategies, thus shifting attention to the viewer:

(11) *Let's protect each other. Please, use hand sanitiser.*

(12) *Wash your hands. Protect yourself and protect others.*

4.3. PanCom's multisemiotic dimension

Drawing on the Visual Grammar theory (Kress & van Leeuwen, 2006, 2021), our analysis focuses on the three visual metafunctions of language identified in that model: (a) representational, (b) interactive, and (c) compositional, which play a pivotal role when analysing the multimodal and hybrid nature of pandemic posters.

4.3.1. Representational meaning

The representational meaning is intertwined with Halliday's (1978, p. 36) *ideational* metafunction of language. It involves specific visual techniques that serve to present unfolding actions or events, processes of change, and transitory arrangements (Royce, 2007).

Our analysis has been focused on whether the images incorporated in the dataset of COVID-19 posters can be regarded as *static*, also referred to in the literature as *offer* images (Kress & van Leeuwen, 2006; Utami et al., 2023) or as *narrative*, where action can be perceived through the depiction of vectors and lines. Table 4 below shows the frequencies obtained in the use of these types of images:

PanCom's multisemiotic dimension: Representational meaning	Absolute frequency n/70	Relative frequency
Static images	60	0.85
Narrative images	10	0.14

Table 4. Frequencies in PanCom's multisemiotic dimension: Representational meaning

Static images appear far more frequently than those representing some sort of action, as seen in the incorporation of objects (e.g., face masks, hand sanitisers, etc.) or silhouettes of people's heads or bodies in a static position. Some examples (13-14) from the corpus of pandemic posters are worth considering. Whereas the poster corresponding to example (13) is static, the one included in example (14) is

narrative as an invisible diagonal line from the sanitiser bottle to the hand creates a descending motion.



Example 13. Static image



Example 14. Narrative image

4.3.2. Interactive meaning

The interactive meaning concerns the relationship established between the visual, the producer, and the viewer in the image (Unsworth, 2008; Unsworth & Wheeler, 2002), which correlates with Halliday’s (1978) *interpersonal* metafunction. Different non-verbal linguistic variables functioning as interactive markers have been considered for the analysis, given their observable traits in the corpus analysed: (a) *visual metadiscourse markers* and (b) *gaze, social distance, and angle*:

a) Visual metadiscourse strategies

Metadiscourse strategies (Hyland, 2008; Hyland & Tse, 2004) can be applied to the analysis of visual markers (Kumpf, 2020). Table 5 includes the frequencies of the observable visual metadiscourse strategies found in the dataset of pandemic posters: (a) *transitions*; (b) *frame markers*; (c) *evidential markers*; (d) *code glosses*; (e) *boosters*; and (f) *engagement markers*.

PanCom’s multisemiotic dimension: Interactive meaning. Visual metadiscourse	Absolute frequency n/70	Relative frequency
Interactive metadiscourse: transitions	55	0.78
Interactive metadiscourse: frame markers	10	0.14
Interactive metadiscourse: evidential markers	58	0.82
Interactive metadiscourse: code glosses	60	0.85
Interactional metadiscourse: boosters	50	0.71
Interactional metadiscourse: engagement markers	15	0.21

Table 5. Frequencies in PanCom’s interactive meaning and visual metadiscourse

Visual transition markers are frequently found in the corpus. These may function similarly as linking words, establishing a cohesion between the written message and the image. The same applies to *visual boosters*, as reflected in how the image has more prominence in size than the text. Another salient finding unearthing the highest frequency is the use of *visual code glosses*, through which the written text is exemplified by an image. Interactive metadiscourse strategies like *visual evidential markers* (e.g., images of logotypes and institutions) also rank high in the analysis. These can be considered external sources of information that help support the information included in the poster and open the dialogic space. In other words, they provide a more heteroglossic engagement (Martin & White, 2005) with viewers. *Visual frame markers* and *engagement markers* reveal lower frequencies. Frame markers are reflected in the use of multimodal elements to guide the viewer through different informative sections of the poster (e.g., numbers and different colours). Engagement markers are mainly observed in the incorporation of images illustrating either people suffering from coronavirus or health staff looking directly at the viewers. Some examples from the corpus can illustrate our findings:

(15) Social distance. 2 metres (A silhouette of two people separated by an arrow may function both as an interactive transition marker and code gloss.)

(16) Coronavirus. Wash your hands with soap and water more often for 20 seconds (Interactive frame markers, like the use of consecutive numbers throughout the text, guide the viewer on how to wash their hands correctly.)

(17) Coronavirus. Wash your hands more often for 20 seconds (The poster incorporates interactive evidential markers such as the logotypes of the Government and the NHS.)

(18) Coronavirus. Act like you've got it. Anyone can spread it. (The poster includes a health professional looking directly at the viewer, acting as a visual interactional engagement marker.)

During the academic year 2021-2022, students were shown two different posters in the survey: one including a written message together with an image of a person suffering from coronavirus (example 19) and another including text with no image (example 20). More than half of the students surveyed prefer the text accompanied by the visual engagement marker as the most convenient to convince the viewer (e.g., the first image *has a greater impact than the other one because of the woman suffering; it gives us a reason to want to respect the rules, so it won't happen to anyone else [...]*). Nevertheless, some answers reveal the opposite view (e.g., I would say that *the poster including only text is more effective because the one including a person suffering tries to make the citizen feel guilty for his actions [...]*).



Example 19. Text combined with image



Example 20. Written message

When the survey was distributed in 2022-2023, students continued preferring visual engagement markers as the most convincing (e.g., *It is more effective to use an image of a person because it makes the viewer empathise with their situation and take responsibility for their actions [...]*). Yet, there were still comments holding the opposite standpoint (e.g., *the poster with the image is too direct, it almost makes you feel bad and this kind of aggressive message isn't as useful as written polite messages [...]*).

b) Gaze, social distance, and angle

Effectively capturing the audience's attention with science dissemination images necessitates using intricate and meticulously coordinated multimodal engagement strategies (Bernad-Mechó & Valeiras-Jurado, 2023). The gaze of represented participants, the social distance established between the image and the viewer, as well as the angle of the image are particularly worth exploring under the realm of visual interactive markers (Kress & van Leeuwen, 2006). Their frequencies are shown in Table 6.

PanCom's multisemiotic dimension: Interactive meaning. Gaze, social distance, angle	Absolute frequency n/70	Relative frequency
Gaze: demand	6	0.08
Gaze: offer	4	0.05
Social distance: head	3	0.04
Social distance: head and shoulders	2	0.02
Social distance: whole figure	5	0.07
Angle: frontal	6	0.08
Angle: oblique	4	0.05

Table 6. Frequencies in PanCom's multisemiotic dimension: Interactive meaning. Gaze, social distance, and angle

Few occurrences are found in these three variables of visual interactive meaning. This could be due to a high frequency of static images in the corpus analysed, particularly the objects related to the COVID-19 pandemic.

As regards *social distance*, the frequency of pandemic posters featuring images that either depict intimate proximity to the viewer (e.g., people's heads, heads and shoulders) or a more impersonal distance (e.g., full-body figures) is notably low. Despite this, it is observed that the frequency of posters incorporating a frontal angle of the participant is slightly higher than that of those showing an oblique one. Example (21) below includes the image of a person whose gaze demands something from the viewer. We can also perceive a frontal angle and an intimate social distance since only the head of the person is visualised in the image.



Example 21. 'Intimate' social distance

In the survey distributed during these two different periods of the pandemic, the results tend to be very similar, revealing that students are more in favour of images of people keeping a more intimate social distance (e.g., faces, heads, heads and shoulders), with eyes looking directly at the viewer and depicted in a frontal angle (e.g., *the photo of the man's face raises awareness, and then there are explicit engagement markers look him in the eyes or tell him that build the relationship with the reader [...]*).

4.3.3. Compositional meaning

The compositional meaning determines the extent to which the visual and verbal elements achieve a sense of coherence to the whole unit (Royce, 2007; Unsworth, 2008; Unsworth & Wheeler, 2002), which is intertwined with Halliday's (1978) *textual* metafunction of language. Concerning our study and given their presence in the dataset analysed, the following compositional variables were examined: (a) *placement of information* and (b) *size, format, and colour* to distinguish the different informative sections included in the poster:

PanCom's multisemiotic dimension: Compositional meaning	Absolute frequency n/70	Relative frequency
Placement of information: top-bottom	60	0.85
Placement of information: left-right	10	0.14
Different sizes and colours to distinguish the different informative sections of the text	65	0.92

Table 7. Frequencies in PanCom multisemiotic dimension: Compositional meaning

The findings yield very high frequencies in using a top-bottom structure to place information, most of the time situated in a centre position to make the information visible, clear, and accessible for the viewer. The same applies to different sizes and colour contrasts to assist viewers in distinguishing different sections through which the most and the least important information is transmitted. Example (22) can shed some light on our findings:



Example 22. Compositional meaning

The poster incorporates a request to open the windows to increase the library's ventilation. The most relevant information 'Coronavirus' is placed at the top of the poster, and 'reduce the spread of Covid-19' is situated at the bottom. In both cases, the background is designed with a strong red colour and letters in white to boost that this is the message that the viewer must notice first. However, as 'Coronavirus' is the principal message to convey information to the viewers, it is noticeable that the letters have a bigger size and different format than the rest of the information included in the poster. The request 'please keep the windows open to increase ventilation; the last person in the building to close the windows' is designed in red light colour, with different sizes and formats to distinguish it from the principal information.

As for the essential compositional factors that were more helpful in understanding the pandemic posters' global message, in both surveys, students

highlighted colour contrast and different sizes and types of words as the most important. However, other compositional elements, such as discontinuity of colours, discontinuity of shapes, alignment, or empty spaces between elements received less attention.

A relevant finding emerging from the 2021-2022 survey is the apparent fluctuation of visual registers, revealing similar results to those already found in written registers. Many students consider that the compositional elements incorporated in these pandemic posters may convey a social (40.5%), amicable (38.1%), and professional register (28.6%).

Concerning the value of information in relation to the placement of elements, 39% of students stated that the pandemic posters placing information from top to bottom and with a centred margin are clearer to understand. Notwithstanding, 40% of students also claimed they had difficulty understanding the most important information, given the amount and variety of compositional elements incorporated in the posters.

5. CONCLUSION

Over the last three years, it has been scientifically demonstrated that PanCom is an innovative area of multidisciplinary research with a marked philological profile guided by the productive fields of linguistic, pragmatic, and sociolinguistic research, such as corpus linguistics. Nevertheless, PanCom constitutes an intricate communicative dimension due to its inherent and conditioning characteristics, making it necessary to use a compendium of theories and models to approach its analysis comprehensively within ESP and ELT contexts in tertiary education.

The findings reveal that the corpus of PanCom posters within university premises may potentially be a source of ambiguity, bias, and misunderstanding regarding their lexical-semantic scope. Their controversial functionality has also been observed due to the fluctuation of speech acts and politeness strategies, making it difficult for students to act in some situations. Although positive politeness strategies make students feel more involved in the pandemic message, ambiguity emerges when they express that nominalisation, as a negative politeness strategy, can either make them feel more involved or obliged to act.

In light of the results, Visual Grammar (Kress & van Leeuwen, 2006, 2021) may be considered one of the most outstanding analytical tools for approaching multimodal and hybrid messages, such as those related to pandemic posters. Visual engagement markers (e.g., images of people looking at the viewers) also pose difficulties for students when they are supposed to be convinced by the poster's message, as many of them believe that these images make them feel guilty. The same controversy is appreciated in different visual registers perceived in the compositional elements and the apparent difficulty when understanding the most and the least important information due to the wide range of multisemiotic elements.

This study could also inspire us to reflect upon the methodological intricacy involved in analysing this type of multisemiotic genre within the context of pandemic communication. An eclectic methodology covering linguistic theories such as the Frame Semantics, Speech Acts, Politeness, and Visual Grammar could be of great help for ESP students and language apprentices to understand and interpret the messages included in pandemic posters, as well as for ESP teachers to approach the complexities arising from emergency management posters. As highlighted by experts (Guillén-Galve & Vela Tafalla, 2023; Hafner, 2020) and supported by numerous references cited here, *digitisation* has become omnipresent in language learning classrooms at all educational levels, from primary education to university, and multimodal digital text and discourse composing are challenging for both students and teachers.

In conclusion, the present research underscores PanCom's distinctive and ubiquitous, yet transitory and evolutionary nature. It emphasises this new ESP area's global presence and relevance in both university and professional education. Furthermore, we hope this contribution will act as a call for caution and commitment, acknowledging that the responsibility for comprehending historical pandemics and preparing for future ones extends beyond scientists to include ESP specialists and the entire educational community.

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Appendix

Full-length questionnaire

The COVID-19 pandemic has changed our behaviour patterns, both social and academic.

1. Compared to 2019 (before the pandemic), what CHANGES do you perceive in your behaviour or the behaviour of your family and friends ON A SOCIAL LEVEL? Do you see any prevention measures still working? Please, tick the ones you perceive from the list below:
2. If you tick “use of mask” in question 1, please indicate in which context.
3. If you tick “others” in question 1, please indicate which.
4. HOW do those behavioural changes and prevention measures affect current social communication from your point of view?
5. And, within the university context? What behavioural CHANGES and prevention measures have the COVID-19 pandemic introduced and have remained in the students’ and scholars’ behaviours WITHIN THE UNIVERSITY? Tick the ones you perceive from the list below:
6. If you tick “more preventive distance in university settings” in the previous question, please indicate where (please specify the settings).
7. If you tick “use of mask” in the previous question, please indicate in which contexts.
8. If you tick “more use of digital resources”, please indicate which type.
9. If you tick “more use of computer applications”, please indicate what type.
10. If you tick “others”, please indicate which.
11. HOW do those behavioural changes and prevention measures affect current academic communication and students’ interaction within university premises from your point of view?
12. Do you think the pandemic has produced changes that remain and continue to develop in current TEACHING and LEARNING/STUDYING methodologies?
13. If you tick “yes” in question 12, please indicate the changes you perceive in the current TEACHING interaction and methodologies.
14. If you tick “yes” in question 10, please indicate the changes you perceive in your current LEARNING and STUDY methodologies.
15. At this time, what do you think is the TYPE OF MESSAGE THAT BEST REACHES THE POPULATION regarding health alerts and prevention measures? Which of the following information channels do you consider most useful for you and your family members on a social level?
16. If you tick “Others” in the previous question, please say which.
17. From the types of messages above (frequent in SOCIAL communication), which do you consider the MOST AND LEAST USEFUL to transmit essential information?
18. Of the types of messages mentioned above, which do you consider most interesting and useful for students in ACADEMIC and UNIVERSITY ENVIRONMENTS?
19. If you tick “OTHERS” in the previous question, please say which.
20. From the types of messages above (frequent in UNIVERSITY communication), which do you consider the MOST AND LEAST EFFECTIVE to transmit essential information?

21. At this time, in what UNIVERSITY CONTEXTS (including the campus surroundings) can you observe warning messages and changes in regulations and norms related to the COVID-19 pandemic? Please tick the ones you perceive from the list below:
22. If you tick "Others" in the previous question, please say which.
23. The notions of "SEMANTIC FRAME" and "LEXICAL FIELD" are essential for analysing multimodal and hybrid messages. What comes to your mind when you hear these concepts? How would you define/explain them?
24. In what subjects of your university degree HAVE you learnt about these concepts, or do you consider you SHOULD HAVE learnt about them?
25. During the COVID-19 pandemic, many multimodal texts included keywords to convey SOCIAL COHESION AND COMMUNITY, HEALTH, and PROTECTION to politely ask citizens to wear face masks, keep social distance, etc. In your opinion, were these messages clear? Or have you ever interpreted these messages as contradictory? If yes, please indicate if the possible ambiguity could lie in the text, in the image, or may be caused by both.
26. What do you know about "RHETORICAL FIGURES OR STRATEGIES" (applied to social contexts/messages)? Please briefly explain what you think they are and why they are used.
27. In what subjects of your university degree HAVE you learnt about rhetorical figures applied to social communication, or do you consider you SHOULD HAVE learnt about them?
28. During the COVID-19 pandemic, many multimodal texts (e.g. memes) included humorous strategies related to the pandemic. What is your opinion on using humour and parody in these texts? Do you consider them effective in times of pandemics?
29. The COVID-19 pandemic has generated new ANGLICISMS (e.g. social distancing, homeschooling, home office), NEOLOGISMS (e.g. herd immunity), new safety/administrative terms (e.g. social distance, distance rules, hygiene rules, etc.), or even common words which have acquired a NEW MEANING (e.g. risk area). Do you still use these words and/or hear them used around you? Could you please argue your answer with examples?
30. How much do you know about the notion of "LANGUAGE REGISTER" and "REGISTER VARIATION"?
31. In what subjects of your university degree HAVE you learnt about language register variation, or do you consider you SHOULD HAVE learnt about it?
32. In the following multimodal text from the UK, do you think that the register used is ...?
33. Regarding the previous question, please briefly explain the reason for your choice
34. Are you familiar with the notions of "SPEECH ACT" and "LINGUISTIC POLITENESS"? Please define these concepts from your point of view.
35. In what subjects of your university degree HAVE you learnt about speech acts and linguistic politeness, or do you consider you SHOULD HAVE learnt about them?
36. When reading and interpreting posters on preventive health messages, do you think you are being informed, advised, recommended, warned, instructed, or a mixture of the above?
37. How much do you know about "METADISOURSE STRATEGIES"? Have you heard about "interactive" and "interactional" metadiscourse strategies? Could you explain their main function or mention what you know about them?
38. In what subjects of your university degree HAVE you learnt about metadiscourse in current communication, or do you consider you SHOULD HAVE learnt about it?
39. Which of these two photographs do you consider most convenient to convince the viewer about the message they convey?
40. What aspects do you consider the most effective in the previous messages? Can you relate these pictures with some interactional metadiscourse strategies to impact the viewer?
41. Have you ever heard the notions of "POSITIVE" and "NEGATIVE" linguistic politeness?
42. Which of the following multimodal texts from British universities make you feel more involved and willing to do the action according to the message? More than ONE option may be chosen.
43. Concerning the previous question, please briefly explain the reason for your choice regarding POSITIVE and NEGATIVE politeness. Which ones do you see as more considerate?
44. Which of the following pandemic posters do you think is more imposing and why? Which element of the image catches your attention the most and why?
45. Please briefly explain the reasons for your choice in question 44.

46. What textual and/or visual elements of the messages might make the viewer of these images feel prone to collaborate or feel somehow patronised/intimidated?

47. In relation to the theory of VISUAL GRAMMAR, there are essential multimodal and paralinguistic factors that significantly affect the meaning of pandemic messages. Please indicate, from your point of view, which elements below are more helpful when understanding the global message. More than ONE option may be chosen.

48. If you tick "Others", please specify which ones.

49. Do you think the textual and visual images included in the following poster from a British university may be considered EFFECTIVE in times of pandemics? Please indicate which textual or visual elements you consider most effective, or if not, which ones you would change to increase the effectiveness of the message.

50. In what subjects of your university degree HAVE you learnt about these elements and VISUAL GRAMMAR, or do you consider you SHOULD HAVE learnt about them?

Thank you very much for your participation! We hope that this survey has helped you think about relevant aspects of pandemic communication and the analysis of multimodal texts and has also increased your knowledge/interest in them.

TAKE CARE & STAY HEALTHY!