

SCIENTIFIC WRITING PROBLEMATICS AMONG ALLIED HEALTH STUDENTS: A FOUNDATION FOR DEVELOPING A MULTILITERACY-BASED LEARNING MODEL

Tati Sri Uswati^{1*)}, Fathur Rokhman¹⁾, Rahayu Pristiwati¹⁾, Indrya Mulyaningsih²⁾
Universitas Negeri Semarang¹⁾, Universitas Siber Syekh Nurjati Cirebon²⁾

tatisriuswati@students.unnes.ac.id

Abstract

Proficiency in scientific writing for health science students is a crucial competence closely linked to the accuracy of medical documentation and professional communication. However, there is a gap between these competency requirements and the reality of students' current abilities. This study aims to map the scientific writing problematics among students at a health higher education institution in Cirebon as a basis for developing a multiliteracy-based learning model. The research employs a descriptive qualitative method with document analysis techniques on student assignments using Sudaryanto's distributional and identity frameworks. The results revealed three interconnected layers of linguistic deviations. First, orthographic and mechanical errors (such as prefix separation and miscapitalization) were highly persistent, accounting for 30% of the data. Second, severe syntactic convolutions and anacoluthon in clinical messaging represented 40%. Third, sociolinguistic barriers and non-standard hybridization of medical terminology (e.g., compounding foreign roots with local affixes like *di-up* and *meng-hecting*) constituted 30%. These findings conclude that students heavily rely on casual, spoken hospital jargon, failing to transition into formal academic writing. Consequently, this study underlines the urgent need to implement the proposed Multiliteracy Learning Model that holistically bridges medical literacy and functional syntax to enhance the institutional credibility of future health professionals.

Keywords: academic register, error analysis, health students, multiliteracy model, scientific writing.

Introduction

Scientific writing proficiency in health higher education is not merely an academic milestone to fulfill credit hours; more importantly, it is a crucial clinical competence directly impacting the accuracy of medical documentation, patient safety, and the effectiveness of communication among professional healthcare providers (Rini et al., 2022). According to the grand theory of academic literacies formulated by Lea and Street (2006), learning to write in higher education involves a complex negotiation of conflicting genres, identities, and institutional registers. Hyland (2022), in his study on disciplinary literacy, asserts that

every academic domain possesses unique linguistic conventions; failure to master these conventions hinders students' professional integration into their post-educational communities.

In the medical field, every scientific report, case study, and final project must be constructed with a high level of precision to avoid fatal clinical misinterpretations. However, pedagogical realities reveal a wide gap between these demands and students' actual competencies. Based on preliminary observations of students' written work at a health higher education institution in Cirebon, several systemic linguistic problems were identified. These issues include a high frequency of

mechanical spelling errors in final project drafts, ineffective sentence structures that cloud clinical messages, and sociolinguistic barriers in hybridizing foreign medical terminology into local standard Indonesian narratives (Hidayat & Setiawan, 2020; Sudaryanto, 2015; Wahyuni, 2023). This is in line with recent national findings by Ramadhan et al. (2024), who confirmed that Indonesian health students consistently struggle with academic language standards due to a reliance on colloquial clinical jargon.

This pervasive condition indicates that conventional learning models—which treat grammar instruction in an atomistic and isolated manner—are no longer sufficient. Health students in the digital era urgently require multiliteracy skills to navigate, synthesize, and produce coherent text amidst digital data, clinical terms, and formal linguistic regulations (The New London Group, 1996; Ng et al., 2021; Tarrayo et al., 2023). Previous research, such as that conducted by Kurniasih (2020), has attempted to map linguistic errors in medical students' drafts, yet the recommendations provided remain limited to surface-level grammatical corrections without proposing macro-level pedagogical restructuring. This is where the novelty of this study lies; it positions these local linguistic challenges as an empirical springboard for pedagogical transformation rather than mere technical faults.

Method

Design of the Study

This study employs a descriptive qualitative approach aimed at identifying and mapping scientific writing problematics as a foundational stage of a needs analysis within a larger Research and Development (R&D) design. This method was selected to provide a systematic, factual, and accurate depiction of the literacy barriers faced by health science students in higher education (Creswell & Poth, 2018). [Procedure of the

Research - Phase 1] By focusing on these existing academic challenges, the study establishes an empirical baseline necessary for developing a targeted, context-specific pedagogical intervention.

Subject of Research

The data for this study were sourced from written assignments produced by health sciences students at a health college in Cirebon, Indonesia. The data corpus comprised three distinct categories of student documents: (1) academic essays discussing Indonesian linguistic issues within midwifery and clinical practices, (2) drafts of students' final undergraduate theses focusing on mechanical language application, and (3) independent assignments centered on constructing effective sentences in health contexts. Purposive sampling was used to select a total of [30] representative documents that exhibited recurring linguistic difficulties. Data collection was carried out through document analysis using a structured codification matrix as the primary research instrument designed to classify specific types of language errors and communication barriers.

Data Analysis Techniques

Data analysis integrated both linguistic analysis techniques and qualitative data synthesis. From a linguistic perspective, the corpus was analyzed using the framework established by Sudaryanto (2015), which involves two primary methods:

The Distributional Method (Metode Agih)

This method was utilized to examine linguistic problems whose determining factors reside strictly within the language structure itself (langue). Specifically, the Bagi Unsur Langsung (BUL) or Immediate Constituent Analysis technique was applied to dissect syntax errors, mechanical typos, and ineffective sentences within the students' writing.

The Identity Method (Metode Padan Ekstralingual)

This method was applied to analyze language elements whose determining factors lie outside the linguistic system, specifically connecting the text to clinical and medical contexts. This approach was vital for evaluating how accurately students hybridized technical health terminology into standard Indonesian narratives.

Procedure of the Research

Following the linguistic dissection, the findings were validated and interpreted using the qualitative data analysis model proposed by Miles, Huberman, and Saldana (2014). This process involved data reduction, data display through organized problematic matrices, and conclusion drawing. The entire analytical output serves as the empirical justification for designing a Multiliteracy-Based Scientific Writing Learning Model tailored to the specific needs of health students.

Findings and Discussion

This section presents the comprehensive findings of the document analysis conducted on health science students' academic papers, integrated directly with a theoretical discussion that grounds these insights within the framework of Indonesian for Specific Purposes (ISP) and multiliteracy pedagogy.

Mechanical Spelling and Orthographic Errors: A Distributional Analysis

The first layer of data analysis focuses on the mechanical aspects of writing, specifically orthographic and spelling errors based on the standard Indonesian spelling system (EYD5). Utilizing Sudaryanto's (2015) Distributional Method (Metode Agih), the compiled corpus of student writing errors is categorized in Table 1 below.

Table 1. Classification of Mechanical Spelling Errors in Students' Drafts

No	Type of Error	Data Found (Incorrect)	Standard Form (Correct)	Linguistic Notes (BUL Technique)
1	Prefiks and prepositions Misplacement	Pasien di palpasi pada perut dikamar bersalin	Pasien dipalpasi pada perut, di kamar bersalin	Prefixes indicating passive verbs must be attached, whereas prepositions denoting space/place must be separated.
2	Mechanical and Orthographic Error	Ibu melahirkan di bantu oleh Bidan rita, sst.	Ibu melahirkan kan dibantu oleh Bidan Rita, S.S.T.	Failure in proper noun capitalization (rita), improper prefix spacing (di bantu), and non-standard academic title abbreviation (sst).
3	Orthographic & Semantic Error	"Pasien diposisi kan miring kekiri untuk mengurangi tekanan di uterus."	"Pasien diposisi kan miring ke kiri untuk mengurangi tekanan pada uterus."	Improper compounding of the directional preposition "ke" with its spatial orientation ("kekiri" → "ke kiri"). Additionally, a semantic

-causal error occurs in the prepositi on choice, where "di" is incorrectl y used to denote location, whereas "pada" is required to logically indicate the specific object receiving physical pressure.
--

Discussion on Data 1 (Table 1)

Based on the data presented in Table 1, the study reveals a high frequency of persistent mechanical mistakes in student final assignment report. The most prominent errors occur in word formation, incorrect affixation, and the misplacement of prepositions. Students frequently confuse the function of the prefix "di-" with the spatial preposition "di". Furthermore, orthographic errors are heavily found in standard medical lexicons.

In the discussion context, these mechanical errors are not merely trivial typos; rather, they reflect a profound lack of orthographic awareness and structural precision. This finding aligns with Kurniasih (2020), who argued that undergraduate students often carry over colloquial texting habits into formal academic writing. In the health sciences, orthographic precision is closely linked to professional discipline. A failure to distinguish passive verbs from spatial prepositions in a medical report can lead to structural ambiguity in patient care charting, which ultimately threatens institutional communication standards

(Hidayat & Setiawan, 2020). Therefore, correcting mechanical errors is the first essential step in building functional literacy within a multiliteracy framework.

The distributional analysis applied to the corpus reveals that students consistently struggle with basic morphological rules and standard orthography. In Data 1 ("dipalpasi pada perut") and ("di kamar bersalin"), the Immediate Constituent Analysis (BUL technique) demonstrates a severe confusion between the function of the prefix di- (passive verb marker) and the spatial preposition di (locative marker). In standard Indonesian grammar, a prefix must be bound directly to the verb base, whereas a preposition must be separated from the noun indicating space or location.

Discussion on Data 2 (Table 1)

As displayed in Table 1 (Data 2), the clause "Ibu melahirkan di bantu oleh Bidan rita, sst." contains multi-layered mechanical and orthographic violations. Employing Sudaryanto's distributional method to dissect the morphological structure, the first prominent error is the improper spacing of the passive prefix 'di-' in the word 'di bantu'. In standard Indonesian grammar (EYD5), 'di-' functions as a verbal affix to form a passive voice and must be attached directly to the root word ('dibantu'), unlike its function as a locative preposition which requires a space. This morphological confusion alters the structural visual of the predicate and disrupts typographical standardization.

Furthermore, using the identity method to align the text with sociolinguistic and institutional naming conventions, severe orthographic oversights are identified in the professional identity formulation. The student failed to capitalize the proper name of the practitioner ('rita' → 'Rita'), directly violating the fundamental capitalization rules for anthroponyms. Additionally, the clinical academic title 'sst' (Sarjana Sains Terapan) was poorly abbreviated without any capital letters or

separating periods ('S.S.T.'). Academically, acronyms and abbreviations of professional degrees are bound by strict institutional rules where each component represents a truncated proper noun. Failing to apply correct capitalization and punctuation to a midwife's professional identity not only violates the standard orthographic code but also diminishes the institutional formality and administrative credibility required in medical documentation.

Discussion on Data 3 (Table 1)

As presented in Table 1 (Data 3), the linguistic deviation found in the student's draft exhibits a dual-layered error: a mechanical orthographic slip combined with a deeper semantic-causal inappropriate prepositional usage. In the first layer of analysis using Sudaryanto's distributional framework, the student failed to separate the directional preposition 'ke' from the spatial orientation noun 'kiri', resulting in the non-standard compounding 'kekiri'. According to the standard Indonesian spelling system (EYD), preposisi 'ke' must be written separately from the word that follows it when denoting direction or spatial orientation. This typographical negligence indicates a lack of meticulousness in applying basic mechanical writing conventions.

However, a more critical linguistic problem arises in the second layer of analysis regarding the phrase "mengurangi tekanan di uterus". Through the identity method (metode padan), it is revealed that the student committed a semantic-causal error in preposition selection. Grammatically, the locative preposition 'di' is strictly restricted to designating a stationary geographic or spatial location (e.g., di kamar, di rumah sakit). Within the clinical context of health sciences, the uterus is a concrete, physical anatomical organ experiencing localized physiological strain or external gravitational force. Therefore, the use of 'di' is logically defective because the positioning of the patient (lateral recumbent or miring ke kiri) is an intervention aimed

at a specific object receiving the physical impact. Consequently, the preposition 'pada' is structurally and logically mandatory to accurately construct the cause-and-effect relationship between the clinical intervention and the reduction of physiological pressure exerted upon the uterine wall. This finding highlights that health students frequently struggle to harmonize their specialized medical register with the functional, logical syntax of standard Indonesian.

Syntactic Ineffectiveness in Clinical Communication

The second dimension of the analysis examines syntax and sentence structure effectiveness. Through the application of the Distributional Method, Table 2 maps the convoluted sentences that violate the principles of logic, economy, and parallel structure in standard Indonesian syntax.

Table 2. Syntactic Errors and Ineffective Sentences in Health Contexts

N o	Type of error	Fragmented /Ambiguous Sentence (Data Found)	Recons tructed Effecti ve Senten ce	Structu ral Defect Analysi s
1	Syntac tic Pleona sm & Relativ e Pronou n Mispla cement	Bagi pasien yang mana mengalami perdarahan hebat maka bidan harus segera memasang infus.	Bidan harus segera memasang infus pada pasien yang mengalami perdarahan hebat.	The sentence lacks logical economy, exhibits a dangling modifier, and contains redundant connectives (yang mana, maka).

2	Passive Voice Inversion Fault / Structural Ambiguity	Pemeriksaan fisik dilakukan oleh perawat kepada pasien untuk mengetahui tanda-tanda vitalnya.	Perawat memeriksa tanda-tanda vital pasien.	Highly redundant and passive structure that reduces the clinical urgency of the statement.
3	Subjectless Fragmented Structure	Dilakukan screening kehamilan.	Bidan melakukan penapisan kehamilan.	Syntactic fragment (missing a clear Subject constituency) combined with typographical and lexical dependency on an unitalicized foreign loanword.
4	Prepositional Correlative Redundancy (Anacoluthon)	Berdasarkan latar belakang diatas, maka rumusan masalah yang disusunnya yaitu bagaimana Proposal laporan tugas akhir ini adalah bagaimana memberikan asuhan kebidanan pada kehamilan, persalinan, nifas dan	Berdasarkan latar belakang rumusan tersebut, rumusan masalah penelitian ini adalah bagaimana memberikan asuhan kebidanan kompre	Severe syntactic convolution (anacoluthon) characterized by structural overlapping, extreme clausal redundancy (repetition of "yaitu bagaimana" and

bayi baru lahir normal di UPTD Puskesmas PONED Plumbon Kabupaten Cirebon Tahun 2026?	hensif pada ibu hamil, bersalin, nifas, dan bayi baru lahir normal di UPTD Puskesmas PONE D Plumbon Kabupaten Cirebon Tahun 2026?	"adalah bagaimana"), improper use of correlative conjunctions ("Berda sarkan... , maka..."), and locative orthographic errors ("didas ").
--	---	--

Discussion on Data 1 (Table 2)

As shown in Table 2, the analysis of student tasks concerning effective sentences revealed highly ambiguous structures. Students consistently struggled to construct clear Subject-Predicate-Object-Adverb (S-P-O-K) structures, often creating fragmented sentences that obscure the logical timeline of a clinical procedure.

Syntactic ineffectiveness in medical writing directly clouds clinical messages. As emphasized by Hyland (2022), disciplinary writing demands clarity and economy to ensure that specialized knowledge is transmitted without ambiguity. In health documentation, ambiguous sentences pose severe risks of misinterpretation among midwives, nurses, and doctors. The integration of these findings into existing knowledge modifies conventional grammar theories by demonstrating that syntactic teaching cannot be taught through generic templates; it must be situated directly within clinical simulation scenarios where students practice conveying patient conditions logically, concisely, and accurately (Tarrayo et al., 2023).

The syntactic examination maps a pervasive issue regarding sentence economy and logical cohesion in clinical reporting. Through the BUL technique, Data 1 is identified as a convoluted, non-standard clause containing structural redundancy. The presence of the phrasal connective "yang mana" (which is a literal translation of English relative pronouns and incorrect in formal Indonesian) combined with the correlative conjunction "maka" creates a dangling and grammatically weak structure. This eliminates sentence economy and leaves the clause hanging without a clean logical progression.

Discussion on Data 2 (Table 2)

In Data 2, the students constructed a highly passive and wordy sequence: "Pemeriksaan fisik dilakukan oleh perawat...". Dissecting this via the distributional method reveals that the sentence unnecessarily nominalizes actions (turning the verb memeriksa into the noun pemeriksaan). This structural defect decreases the clinical urgency of the statement. In documentation, medical professionals require high linguistic precision. Reconstructing these data into S-P-O structures ensures that the clinical actor and the procedure are conveyed concisely and unambiguously, as validated by Hyland's (2022) theory of disciplinary literacy.

Discussion on Data 3 (Table 2)

The grammatical dissection of Data 3, "Dilakukan screening kehamilan," highlights a multi-layered syntactic and lexical defect within the students' academic corpus. Through the application of Sudaryanto's (2015) Distributional Method (Metode Agih) and the Immediate Constituent Analysis technique (Bagi Unsur Langsung / BUL), this construction is identified as a fragmented sentence. Structurally, it fails to fulfill the minimum requirement of standard Indonesian sentence patterns due to the total absence of a clear Subject (SS\$) constituent, leaving only a passive Predikat (\$P\$) represented

by the verbal word "Dilakukan". In a high-stakes clinical environment, structural omissions of this nature can lead to legal and operational ambiguity, as the professional actor responsible for executing the clinical procedure is completely obscured.

Furthermore, this structural defect is exacerbated by a severe dependency on unitalicized foreign loanwords (screening) and a failure to recognize standard domestic equivalents. To reconstruct this sentence effectively, the professional actor (Bidan / Midwife) must be introduced to occupy the Subject position, and the English clinical jargon must be replaced with its standardized Indonesian equivalent, penapisan (or deteksi diri). This finding highly corroborates the grand theory of academic literacies by Lea and Street (2006), which emphasizes that academic writing proficiency requires students to master both structural syntax and specialized institutional registers simultaneously.

Discussion on Data 4 (Table 3)

The structural analysis of the students' introductory sections reveals a high frequency of syntactic convolution, as exemplified by the problematic problem formulation clause. Dissecting this data through the Immediate Constituent Analysis (BUL technique) exposes an anacoluthon—a structural defect where the grammatical direction of a sentence ruptures mid-clause. The student structurally collapses the formal statement of the research problem into the project title, resulting in an ungrammatical overlap and the redundant repetition of interrogative markers ("yaitu bagaimana" and "adalah bagaimana"). Furthermore, the sentence violates standard logical constraints by placing the correlative conjunction "maka" directly after a conditional prepositional phrase ("Berdasarkan..."), which eliminates sentence economy. From a pedagogical standpoint, this indicates that health science

students struggle heavily to maintain syntactic control when constructing long, compound sentences containing complex institutional attributes.

Sociolinguistic Barriers and Terminology Hybridization

The final layer of analysis applies Sudaryanto's (2015) Identity Method (Metode Padan Ekstralingual) to investigate how students navigate elements outside the linguistic system—specifically, the integration of technical medical and foreign terminology into standard Indonesian narratives, as displayed in Table 3.

Table 3. Non-Standard Hybridization of Medical Terminology

N o	Type of error	Hybrid ized Clinica l Term (Incorr ect)	Standar d Indones ian Equival ent	Socioling uistic Context / Reason
1	Non- Standard Vernacul ar Code- Mixing / Colloqui al Hospital Jargon	Infusny a sudah di-up oleh perawa t jaga.	Infus pasien sudah dilepas oleh perawat jaga.	Force- fitting English clinical jargon (up) into local morpholo - gical affixation templates (di-).
2	Improper Morphol ogical Hybridiz ation of Foreign Loanwor d	Bidan sedang melaku kan meng- hecting luka perineu m.	Bidan sedang menjahit luka perineu m.	Redunda nt verbalizat ion and improper blending of a foreign medical term (hecting) with a local prefix (meng-).

3	Interling ual Morpho- Syntactic Cliticizat ion	Pasca operasi juga mungki n recover y-nya perlu dibantu secara emosio nal. Bidan bisa mensup port secara emosio nal.	Pascaop erasi, bidan perlu member ikan dukunga n emosion al selama masa pemulih an pasien.	Improper hybridiza tion of foreign roots (recovery , support) with local affixes (- nya, men-), alongside orthograp hic errors in bound morphem es (pasca) and syntactic redundan cy.
---	---	--	--	--

The document analysis summarized in Table 3 showcases an arbitrary mixing of English/Latin clinical terms with Indonesian affixes. From an extralingual perspective, this hybridization is incorrect because it force-fits foreign lexical items into local morphological structures without proper linguistic adaptation, ignoring the standard Indonesian equivalents.

This sociolinguistic barrier highlights a profound gap in students' register awareness. Students are highly exposed to informal clinical jargon during hospital practices, yet they fail to translate this spoken jargon into formal written registers. This finding corroborates Wahyuni's (2023) assertion that hybridization hurdles remain an unresolved issue in specialized language education. To integrate these findings into the existing body of knowledge, this phenomenon can be explained by Kachru's (1992) theory of language contact and hybridization, which states that when two distinct registers collide in a high-pressure professional environment, non-standard linguistic blending is inevitable unless formal institutional scaffolding is provided. To modify existing pedagogical frameworks, this study argues that language instructors

must move away from atomistic models. We must adopt a Multiliteracy Learning Model that treats medical literacy and functional linguistic literacy as interconnected dimensions (Ng et al., 2021). By teaching students how to properly hybridize and find standard vocabulary for medical terms, they are trained to become linguistically competent healthcare professionals.

From a sociolinguistic perspective, this arbitrary blending proves that while students are highly competent in oral hospital jargon, they fail to recognize that this casual inter-professional talk cannot be direct-mapped into formal academic papers. This hybridization violates Indonesian morphological rules and ignores established domestic medical equivalents, such as *melepas* for *di-up* and *menjahit* for *meng-hecting*. This confirms Wahyuni's (2023) stance that addressing register awareness is paramount in specialized health communication.

To modify the existing pedagogical frameworks, this study argues that language instructors must shift away from atomistic models. We must adopt a Multiliteracy Learning Model that treats medical literacy and functional linguistic literacy as interconnected dimensions (Ng et al., 2021). By explicitly teaching students how to properly hybridize and locate standardized Indonesian equivalents for foreign medical terms, they are trained to become linguistically competent health professionals.

Discussion on Data 1 and 2 (Table 3)

Applying Sudaryanto's (2015) Identity Method (*Metode Padan Ekstralingual*), the analysis demonstrates how the extra-linguistic clinical environment heavily distorts students' formal written register. Data 1 ("*di-up*") and Data 2 ("*meng-hecting*") showcase non-standard linguistic hybridization. In Data 1, the English particle "*up*" is force-fitted into a local passive prefix (*di-*). Similarly, in Data 2, the

foreign medical root "*hecting*" (from Dutch/English for suturing) is combined with the local active prefix (*meng-*), accompanied by a redundant verb phrase "*sedang melakukan*".

From a sociolinguistic perspective, this arbitrary blending proves that while students are highly competent in oral hospital jargon, they fail to recognize that this casual inter-professional talk cannot be direct-mapped into formal academic papers. This hybridization violates Indonesian morphological rules and ignores established domestic medical equivalents, such as *melepas* for *di-up* and *menjahit* for *meng-hecting*. This confirms Wahyuni's (2023) stance that addressing register awareness is paramount in specialized health communication.

From a sociolinguistic perspective, this random blending highlights a profound lack of register awareness among health science students. As theorized by Kachru (1992) regarding language contact, within high-pressure professional environments such as clinical practices, students subconsciously internalize concise verbal jargon. However, maintaining these non-standard hybridized structures in formal documentation or thesis drafts severely compromises the institutional credibility of the scholarly work. To rectify these constructions, the sentences must be streamlined using standard Indonesian equivalents: replacing the loanword '*recovery*' with '*pemulihan*', substituting '*mensupport*' with '*memberikan dukungan*', and eliminating repetitive clauses to preserve sentence economy and logical coherence."

Discussion on Data 3 (Table 3)

The linguistic phenomenon observed in Data 3 reveals a severe case of informal hybridization and structural redundancy within the students' professional register. By applying Sudaryanto's (2015) Identity Method (*Metode Padan Ekstralingual*), it is highly evident that the students heavily rely on casual, spoken clinical jargon used in

hospital wards, failing to transition into formal academic writing. The use of hybrid tokens such as "recovery-nya" (attaching an Indonesian enclitic to an English noun) and "mensupport" (morphologically merging the active prefix *men-* with an English verb stem without proper phonological adaptation to *menyokong/mendukung*) violates standard morphological rules. Furthermore, this lexical dependency is compounded by an orthographic error in the bound morpheme "pasca operasi" (which must be written without a space as *pascaoperasi*) and an extreme syntactic redundancy through the immediate repetition of the phrase "secara emosional".

From a sociolinguistic perspective, this arbitrary blending highlights a profound lack of register awareness among allied health students. As theorized by Kachru (1992) regarding language contact, in high-pressure professional environments like clinical rotations, students unconsciously internalize shorthand verbal jargon. However, preserving these non-standard hybrid structures in formal documentations or final undergraduate theses severely devalues the institutional credibility of the scientific paper. To rectify this construction, the sentence must be streamlined using standardized Indonesian equivalents: replacing *recovery* with *pemulihan*, *mensupport* with *memberikan dukungan*, and eliminating the redundant clauses to maintain logical economy.

Conclusions

This study concludes that health science students in Cirebon experience layered and systemic scientific writing problematics that hinder their professional communication readiness. The empirical findings obtained from the document analysis reveal three core linguistic barriers. First, mechanical and orthographic errors remain highly persistent, particularly in the misplacement of spatial prepositions and standard medical lexicons. Second,

syntactic ineffectiveness is heavily prevalent, characterized by convoluted sentence structures, dangling modifiers, and fragmented clauses that directly cloud the delivery of crucial clinical messages. Third, a significant sociolinguistic barrier is identified in the form of non-standard terminology hybridization, where students force-fit foreign clinical jargon into local morphological affixation templates due to a lack of register awareness. These combined findings demonstrate that conventional, atomistic language teaching methods are no longer sufficient to address the complex, high-stakes communication demands of the modern healthcare sector.

Consequently, this study emphasizes the critical and urgent need to transition toward a Multiliteracy-Based Scientific Writing Learning Model. By holistically converging functional language mastery, digital resource navigation, and clinical context registers, this proposed model offers a transformative pedagogical framework. It shifts language instruction from isolated grammar memorization into simulated, purpose-driven clinical charting. Ultimately, the implementation of this model serves as a strategic foundation to bridge the gap between academic writing proficiency and professional documentation accuracy, thereby making a direct, long-term contribution to patient safety and healthcare quality enhancement. While this study is limited to a specific cohort in Cirebon, future research should widely test the empirical efficacy of this multiliteracy model across diverse pedagogical and geographical health institution settings.

References

- Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design: Choosing among five approaches (4th ed.). SAGE Publications.

- Grady, J. S., Her, M., Moreno, G., Perez, C., & Yelinek, J. (2019). Emotions in storybooks: A comparison of storybooks that represent ethnic and racial groups in the United States. *Psychology of Popular Media Culture*, 8(3), 207–217. <https://doi.org/10.1037/ppm0000185>
- Hidayat, T., & Setiawan, D. (2020). Analisis efektivitas kalimat dalam dokumentasi keperawatan di rumah sakit. *Jurnal Bahasa Indonesia Terapan*, 3(2), 115–125.
- Hyland, K. (2022). *Disciplinary literacies: Professional development and managing change*. Bloomsbury Academic. <https://doi.org/10.5040/9781350253131>
- Kachru, B. B. (1992). Meaning in deviation: Toward understanding new Englishes. In B. B. Kachru (Ed.), *The other tongue: English across cultures* (2nd ed., pp. 301–326). University of Illinois Press.
- Kurniasih, N. (2020). Kesalahan sintaksis dan ortografi pada draf karya tulis ilmiah mahasiswa kedokteran. *Jurnal Edukasi Bahasa*, 8(1), 45–58.
- Lea, M. R., & Street, B. V. (2006). The "academic literacies" model: Theory and applications. *Theory Into Practice*, 45(4), 368–377. https://doi.org/10.1207/s15430421tip4504_11
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE Publications.
- Ng, C., Tang, Y., & Cho, K. (2021). Multiliterate practices in digital-era higher education: A synthesis of specialized literacies. *Educational Research Review*, 34, Article 100401. <https://doi.org/10.1016/j.edurev.2021.100401>
- Ramadhan, S., Syarif, I., & Utami, T. (2024). Problematika mekanis dan sosiolinguistik dalam penulisan akademik mahasiswa kluster kesehatan. *Jurnal Pendidikan Bahasa dan Sastra Indonesia*, 13(1), 88–102.
- Rini, S., Lestari, P., & Wijaya, A. (2022). The impact of precise clinical writing on patient safety in midwifery care. *Journal of Health Communication and Literacy*, 5(2), 142–155.
- Sudaryanto. (2015). *Metode dan aneka teknik analisis bahasa: Pengantar penelitian wahana kebudayaan secara linguistik*. Sanata Dharma University Press.
- Tarrayo, V. N., Flores, G. M., & Ramirez, J. (2023). Integrating disciplinary literacy into English for Specific Purposes (ESP): The case of allied health academic writing. *Journal of English for Academic Purposes*, 62, Article 101215. <https://doi.org/10.1016/j.jeap.2023.101215>
- The New London Group. (1996). *A pedagogy of multiliteracies: Designing social futures*. Harvard Educational Review, 66(1), 60–92. <https://doi.org/10.17763/haer.66.1.w32542v115444328>
- Wahyuni, S. (2023). Hambatan hibridasi istilah medis asing dalam narasi laporan kebidanan berbahasa Indonesia baku. *Linguistika Akademika*, 11(2), 210–226.