

A Guide to Scientific Writing for BSN and Post-RN BSN Final-Year Students:

Strategies to Avoid Common Mistakes in Research Articles

Fida Muhammad

RN, Registered Nursing Officer, King Abdullah Teaching Hospital, Mansehra, Khyber Pakhtunkhwa (KPK), Pakistan Email: fida2040276@gmail.com

Saira Javaid

RN, Nursing Officer, Government Teaching Hospital Shahdara, Lahore, Punjab, Pakistan Email: sairahoney01122000@gmail.com

Shahid Samuel

RN, Staff Nurse, Bach Christian Hospital, Qalandrabad, Abbottabad, Khyber Pakhtunkhwa (KPK), Pakistan Email: shahidsamuel092@gmail.com

Abstract

Background: Scientific writing is a foundational competency in nursing research; however, undergraduate nursing students particularly those in the final year of Bachelor of Science in Nursing (BSN) and Post-Registered Nurse BSN programs frequently encounter significant challenges when attempting to produce publishable research articles. These difficulties often arise not only during the act of writing itself, but also during the planning stages that precede it.

Objective: This article aims to describe the most prevalent errors committed by final-year nursing students in scientific writing and to offer evidence-based, practical strategies for overcoming them.

Methods: A narrative synthesis approach was employed, drawing on established guidelines for scientific reporting (IMRaD framework), peer-reviewed literature on academic writing, and the authors' collective experience in nursing education and research mentorship.

Results: Common errors occur across all sections of a research article introduction, methods, results, and discussion and are frequently linked to inadequate pre-

writing planning, poor paragraph organization, misuse of linking elements, and unfamiliarity with journal-specific requirements. Targeted strategies, including systematic outlining, adherence to reporting guidelines, use of cohesive textual devices, and disciplined writing habits, have been shown to substantially improve manuscript quality.

Conclusion: Cultivating scientific writing proficiency among BSN and Post-RN BSN students is essential for advancing nursing knowledge, improving healthcare outcomes, and enhancing the global visibility of nursing scholarship. Systematic instruction in writing techniques, combined with consistent self-evaluation and mentor feedback, provides a practical pathway toward this goal.

Author Details

Keywords: BSN Students, Nursing Education, Research Writing, Scientific Communication, Academic Writing Skills, IMRaD, Common Writing Errors, Post-RN BSN

Received on 01 May 2026

Accepted on 22 May 2026

Published on 08 Jun 2026

Corresponding E-mail & Author*:

Fida Muhammad

RN, Registered Nursing Officer, King Abdullah Teaching Hospital, Mansehra, Khyber Pakhtunkhwa (KPK), Pakistan Email: fida2040276@gmail.com

INTRODUCTION

Scientific writing is an indispensable skill within healthcare professions, serving as the primary mechanism through which new clinical knowledge is generated, validated, and disseminated to improve patient care (American Psychological Association [APA], 2020; Oermann et al., 2018). For nursing professionals, the ability to produce rigorous, well-structured research articles is not merely an academic exercise it is a professional responsibility central to evidence-based practice. Nevertheless, the path from conducting a study to publishing its findings in a peer-reviewed journal remains challenging, particularly for students approaching the culmination of their undergraduate nursing education.

Final-year students in BSN and Post-Registered Nurse (Post-RN) BSN programs occupy a critical transitional position. They possess foundational knowledge of nursing science and research methodology, yet many have had limited exposure to the conventions, expectations, and iterative processes of academic publishing (Happell et al., 2019; Oermann et al., 2018). Errors in this phase can result in manuscript rejection, delayed publication, or the perpetuation of unclear research communication outcomes with real consequences for the broader dissemination of nursing knowledge (Silveira et al., 2022).

Existing literature on scientific writing, while extensive, predominantly addresses either highly specialized populations (e.g., doctoral researchers or experienced faculty) or specific methodological designs such as systematic reviews and randomized controlled trials (Bahadoran et al., 2018, 2019a, 2019b, 2020; Pati & Lorusso, 2018). A comprehensive, accessible guide tailored to the unique developmental stage and learning needs of BSN and Post-RN BSN final-year students remains underrepresented in the nursing education literature. This gap is particularly consequential in low-to-middle-income countries, where nursing programs are expanding rapidly but institutional support for research writing may be limited (World Health Organization [WHO], 2020).

The purpose of this article is threefold: (a) to identify and describe the most common errors made by final-year nursing students across all major sections of a scientific article; (b) to provide concrete, actionable strategies grounded in current publishing guidelines and pedagogical best practices; and (c) to motivate students and nursing educators to treat scientific writing as a teachable, learnable, and improvable skill rather than an innate talent. The guidance presented here draws on established reporting frameworks, instructional writing research, and mentorship experience with undergraduate nursing researchers.

PRE-WRITING ERRORS AND STRATEGIES

Failure to Select a Target Journal Before Writing

One of the most consequential and most frequently overlooked pre-writing errors is beginning the manuscript before identifying a target journal. Without a clear publication venue in mind, authors tend to write without direction: they may produce abstracts that do not match required formats, use word counts that violate journal limits, or frame their contributions in ways misaligned with the journal's readership and scope (Weinstein, 2020).

Final-year nursing students are encouraged to review the 'Instructions to Authors' section of at least two to three candidate journals before drafting a single paragraph. This document specifies requirements such as structured versus unstructured abstracts, permissible article types, reference formatting preferences, and limits on tables and figures. Furthermore, reading three to five recently published articles from the target journal provides invaluable modeling of disciplinary writing conventions, argument structures, and citation practices (Silveira et al., 2022).

Ignoring Reporting Guidelines

Nursing research encompasses a wide range of study designs, each associated with internationally recognized reporting guidelines that define the minimum information required for transparent and reproducible scholarly communication. Students frequently omit key methodological details because they are unaware of which guideline applies to their study design or because they underestimate the scrutiny applied during peer review (Schulz et al., 2010).

Table 1

Reporting Guidelines Relevant to Common Nursing Research Designs

Study Design	Guideline	Key Application
Observational studies (cross-sectional, cohort, case-control)	STROBE	Ensures transparent reporting of design, sample, variables, and limitations
Randomized controlled trials	CONSORT 2010	Guides reporting of randomization, blinding, and participant flow
Qualitative studies	SRQR / COREQ	Addresses reflexivity, data saturation, and credibility strategies
Systematic reviews & meta-analyses	PRISMA	Requires a PRISMA flow diagram and risk-of-bias assessment
Case reports	CARE	Describes timeline, diagnostic assessment, and patient perspective

Note. STROBE = Strengthening the Reporting of Observational Studies in Epidemiology; CONSORT = Consolidated Standards of Reporting Trials; PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses; SRQR = Standards for Reporting Qualitative Research; COREQ = Consolidated Criteria for Reporting Qualitative Research; CARE = Case Report guidelines.

Disorganized Notes and Environmental Distractions

A disorganized workspace both physical and digital impairs the writing process before it begins. When notes, references, and data files are scattered across platforms and folders, authors spend disproportionate time retrieving information rather than synthesizing it (Hotaling, 2020). Nursing students are advised to adopt a systematic filing approach: after selecting articles for review, key findings, quotations, and methodological details should be logged in a reference management program (e.g., Zotero, Mendeley, or EndNote) with descriptive tags that correspond to IMRaD sections. Creating a dedicated 'writing file' for each article separate from the manuscript itself streamlines retrieval and reduces cognitive load.

Environmental distractions represent an equally significant barrier. Contemporary research confirms that task-switching moving between writing and activities such as responding to messages or browsing social media substantially reduces writing productivity and increases error rates (American Nurses Association, 2021). Students benefit from designating uninterrupted writing blocks of 90 to 120 minutes, during which notifications are silenced and access to non-research websites is restricted. Physical health habits, including adequate sleep, regular physical activity, and nutritious eating, also contribute meaningfully to sustained cognitive performance during intensive writing periods (Silveira et al., 2022).

THE WRITING PROCESS: SECTION-BY-SECTION GUIDANCE

Starting Point: Objectives and the IMRaD Framework

Contrary to intuition, effective scientific articles are rarely written in the order in which they are read. The recommended sequence for final-year nursing students begins with a clearly articulated statement of the study objective, followed by the Methods section, then Results, then Discussion, and finally only after all other sections are complete the Introduction and Abstract (Bahadoran et al., 2018; Kallestinova, 2011). This non-linear approach ensures coherence: the introduction can be crafted to anticipate exactly what the article delivers, rather than promising content that the data do not fully support.

The study objective functions as the navigational anchor of the entire manuscript. Stated in the final paragraph of the introduction using an infinitive construction (e.g., 'to examine,' 'to compare,' 'to identify'), it must align precisely with the statistical analyses performed, the variables reported in the Results section, and the interpretations offered in the Discussion (Hotaling, 2020; Silveira et al., 2022). A mismatch between the stated objective and any other section is among the leading causes of manuscript rejection at the initial editorial screening stage.

Once the objective is established and tables and figures have been prepared, a collaborative meeting among all co-authors is strongly recommended. This session serves to align interpretations, identify the study's primary contributions, articulate conclusions, and assign writing responsibilities particularly for sections involving procedures in which not all authors participated directly (Geithner & Pollastro, 2016).

Outlining and Paragraph Organization

Systematic outlining before drafting is a discipline that dramatically improves both the quality and efficiency of scientific writing. For each IMRaD section, students should first identify the central theme of each paragraph, then determine which supporting ideas, data, or citations will be incorporated, and finally verify that the sequence is logically progressive before writing a single sentence (Kallestinova, 2011).

Each paragraph in a scientific article should follow a recognizable internal structure: an opening sentence that orients the reader to the paragraph's central point; two to four supporting sentences that provide evidence, context, or argument; and a closing sentence that either reinforces the central point or transitions logically to the next paragraph (Derish et al., 2007). Departures from this structure most commonly, paragraphs that begin in the middle of a thought or end without resolution produce the impression of disorganization that peer reviewers frequently cite in rejection feedback. Common paragraph-level errors include excessive verbiage, redundancy (restating the same idea in slightly different words), overuse of indefinite pronouns such as 'some' or 'many,' and over-reliance on the passive voice. After completing each paragraph, students are advised to read it aloud: this technique naturally exposes awkward phrasing, unnecessary repetition, and logical gaps that are difficult to detect during silent reading (Hotaling, 2020).

Cohesion, Clarity, and Linking Elements

Cohesion the linguistic property that connects sentences and paragraphs into a unified, readable whole is frequently underdeveloped in student manuscripts. Effective cohesion relies on two primary mechanisms: lexical consistency (using the same technical term consistently rather than varying it for stylistic reasons) and appropriate use of transitional expressions (Silveira et al., 2022). Unlike general academic writing, scientific text values terminological precision over variety; introducing synonyms for key variables (e.g., alternating between 'fatigue' and 'exhaustion' to describe the same outcome measure) can inadvertently suggest that different constructs are being discussed.

Table 2*Categories of Transitional Expressions and Examples in Nursing Research Writing*

Function	Examples
Addition	furthermore, additionally, in addition, also, equally important
Comparison / Similarity	similarly, likewise, in the same manner, consistent with
Contrast / Opposition	however, in contrast, conversely, nevertheless, on the other hand
Cause / Effect	therefore, consequently, as a result, thus, accordingly
Temporal Sequence	subsequently, following this, prior to, thereafter, concurrently
Restatement / Emphasis	that is, in other words, specifically, notably, importantly
Conclusion	in summary, taken together, overall, these findings suggest

SECTION-SPECIFIC ERRORS AND CORRECTIVE STRATEGIES**Table 3***Common Errors and Corrective Strategies Across IMRaD Sections in Student Nursing Research Articles*

Section	Common Student Error	Recommended Strategy
Introduction	Overly lengthy with content more suitable for the discussion	Restrict to three to five paragraphs following an inverted-triangle structure (general to specific)
	Excessive summarization of prior studies without linking to the research gap	Focus on what existing studies do not yet answer; use prior work to justify not replace the study's purpose
	Outdated references (older than five years for a current problem)	Prioritize literature published within the past five years; older seminal works are acceptable if explicitly identified as foundational
	Introducing research problems not addressed in the article	Every problem raised in the introduction must be addressed by at least one objective and corresponding results
Methods	Methods written in an illogical, non-chronological order	Describe procedures in the order they were performed; use the relevant reporting guideline as a structural template
	Outcome variables inadequately defined or operationalized	Define each variable explicitly: provide the conceptual definition, measurement tool, scoring method, and classification criteria
	Statistical analysis described vaguely or incompletely	Name every statistical test used, identify the corresponding variables, state the significance threshold, and specify the software and version
Results	Sample description omitted or incomplete	Open with a paragraph describing the final analytic sample, including reasons for any exclusions, losses to follow-up, or refusals

	Verbatim repetition of table or figure data in the text	Use the text to highlight key findings only; direct the reader to the table or figure for complete data
	Inappropriate action verbs attributed to tables or figures (e.g., 'Table 1 shows')	Use passive constructions: 'As shown in Table 1...' or 'The prevalence of ... was 43.2% (Table 1)'
Discussion	Opening paragraph restates the objective or repeats introduction content	Begin by directly answering the research question and identifying the study's primary contribution to the literature
	Paragraphs consist of literature review without comparative interpretation	Every paragraph must include a direct comparison between the present findings and those of cited studies, with an explanation for any discrepancies
	Limitations omitted or minimized	Dedicate the penultimate paragraph to limitations; balance them with corresponding strengths to maintain scientific credibility
Conclusion	Introduction of new data or arguments not previously discussed	Restrict conclusions to responses to the study objectives; do not introduce new evidence or speculation

Note. IMRaD = Introduction, Methods, Results, and Discussion.

Methods Section

The Methods section is the cornerstone of scientific credibility. Peer reviewers scrutinize this section most rigorously because it determines whether findings can be replicated, generalized, or applied in clinical practice (Bahadoran et al., 2019a). For nursing students, common deficiencies in this section include: (a) vague descriptions of recruitment procedures that prevent replication; (b) failure to specify how key nursing-sensitive outcomes (e.g., pain intensity, functional status, medication adherence) were operationalized; (c) absence of ethical approval statements and participant consent procedures; and (d) statistical analyses described so briefly that readers cannot assess their appropriateness.

Students are strongly advised to write the Methods section immediately after finalizing their analysis plan and prior to results interpretation. Writing in the past tense and using the relevant reporting guideline as a structural checklist ensures completeness. When co-authorship involves individuals who were responsible for data collection or laboratory procedures, those individuals should contribute directly to the Methods section rather than relying on the lead author to reconstruct procedures they did not personally conduct (Silveira et al., 2022).

Results Section

The Results section should be organized to mirror the order of the stated study objectives and the sequence of tables and figures. This parallel structure reduces cognitive load for the reader and signals careful organization to reviewers (Bahadoran et al., 2019b). The opening paragraph should characterize the final study sample, including demographic characteristics and any relevant clinical data, to contextualize the findings that follow.

Nursing students frequently err by including interpretive language in the Results section explaining why a finding occurred or what it means clinically. Such interpretation belongs exclusively in the Discussion. The Results section should restrict itself to reporting what was found, supported by tables and figures, and supplemented in the text only by summary statements that highlight the most

clinically or statistically significant findings (Weinstein, 2020).

Discussion Section

The Discussion is the section in which the intellectual contribution of the study is most clearly demonstrated, and it is also the section in which students most frequently falter. The recommended organizational structure for nursing student manuscripts follows a four-part progression: (a) a direct response to the primary research question, identifying whether and how a knowledge gap has been addressed; (b) interpretation and contextualization of the most significant findings through comparison with prior literature, with explicit explanation of any discordant results; (c) delineation of limitations alongside methodological strengths; and (d) articulation of clinical and policy implications, together with specific recommendations for future research (Silveira et al., 2022).

A particularly prevalent error in student manuscripts is writing discussion paragraphs that consist entirely of summaries of prior studies effectively a continuation of the literature Review without ever establishing a direct comparative or interpretive link to the present findings. Every paragraph in the discussion must contain at least one statement that connects the cited evidence to the results of the current study, explaining whether they corroborate, contradict, extend, or qualify one another (Derish et al., 2007).

Introduction, Abstract, and Title

As noted, the Introduction should be the final section drafted. Writing it last ensures that promises made to the reader accurately reflect what the article delivers. A well-constructed nursing research introduction follows an inverted triangle structure: it begins with the broad clinical or public health context (e.g., the global burden of a health condition), narrows to the existing state of evidence, explicitly identifies the knowledge gap or unresolved clinical question, and concludes with the study objective stated as a declarative sentence or infinitive phrase (Bahadoran et al., 2018). A practical quality check: remove the objective sentence from the draft introduction and ask a peer to read it; if they can accurately identify the study's purpose, the introduction is sufficiently directive.

The Abstract is the manuscript's most widely read component and should therefore be written with exceptional care but only after all other sections are complete. Nursing students frequently underestimate the abstract, treating it as a mechanical summary rather than a strategic representation of the article's value. The abstract must include the study's objective, design, setting, sample, primary outcome measures, key findings, and principal conclusions, all within the journal's word limit and using minimal abbreviations (Bahadoran et al., 2020; Sanganyado, 2019).

The Title is equally strategic. Research in citation patterns suggests that titles that are specific, informative, and accurately representative of study content attract more downloads and citations than generic titles (Habibzadeh & Yadollahie, 2010). Nursing students may choose from three main title types: descriptive titles that identify the topic without revealing the main finding; declarative titles that state the primary result; or interrogative titles, often used in review articles, that pose the research question directly. Regardless of format, the title should include the study population, the key variable or intervention, and the study design where space permits (Bahadoran et al., 2019c).

IMPLICATIONS FOR NURSING EDUCATION

The gap between research completion and successful publication in nursing education represents a missed opportunity for both individual professional development and collective disciplinary advancement. Faculty members and clinical supervisors play a

pivotal role in closing this gap by integrating structured scientific writing instruction into final-year BSN and Post-RN BSN curricula (Happell et al., 2019; Oermann et al., 2018). Such instruction should not be confined to a single course or orientation session but should be scaffolded across the research trajectory from research design through data analysis to manuscript preparation.

Peer review simulations, in which students exchange and formally critique one another's manuscript drafts using structured rubrics aligned with journal reviewer criteria, have been shown to improve both writing quality and critical appraisal skills (Geithner & Pollastro, 2016). Mentor-facilitated writing groups, in which small cohorts of students meet regularly to share work-in-progress and receive formative feedback, address the isolation that often derails solo writing efforts. Institutions should also provide students with access to reference management software, plagiarism detection tools, and institutional journal subscriptions to support the research and writing process.

At the national and regional level, nursing professional associations and regulatory bodies are encouraged to advocate for the inclusion of scientific writing competencies within accreditation standards for nursing programs. Aligning graduation requirements with publication-readiness or at minimum, manuscript submission would signal a commitment to evidence-based practice as a genuine professional standard rather than an aspirational ideal (WHO, 2020).

CONCLUSION

Scientific writing proficiency is not a fixed trait distributed unevenly among nursing students; it is a learnable, practicable, and improvable skill that responds systematically to instruction, practice, feedback, and reflection. This article has described the most common errors encountered across all phases of manuscript preparation from the pre-writing planning stage through section-specific Drafting and has provided evidence-informed strategies for each.

Final-year BSN and Post-RN BSN students who internalize these strategies selecting target journals early, applying appropriate reporting guidelines, organizing their writing environment, outlining systematically, structuring paragraphs logically, and subjecting their drafts to iterative peer and mentor review are substantially better positioned to produce manuscripts that contribute meaningfully to nursing knowledge. The scientific writing process is, ultimately, an extension of the clinical reasoning that defines professional nursing: rigorous, evidence-based, clearly communicated, and oriented always toward improving the well-being of patients and communities.

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