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Auto-Correct and Auto-Suggestion in Students' Academic Writing

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Abstract

The increasing integration of auto-correct and auto-suggestion technologies into digital writing environments has changed the ways students compose, revise, and monitor written texts. While these technologies are designed to facilitate accurate and efficient writing, their influence on students' independent spelling and grammatical proficiency remains an important area of investigation. This study examines spelling and grammatical errors occurring in students' digitally produced academic texts, with particular attention to patterns that may be associated with the use of auto-correct and auto-suggestion. The study adopts a qualitative content-analysis design supplemented by descriptive quantitative analysis. Data were drawn from thirty assignment scripts produced by tertiary-level students across different disciplines. The scripts were coded for recurring spelling and grammatical features. The analysis identified 37 spelling-error instances distributed across four categories: omission of letters (14; 37.8%), homophone confusion (11; 29.7%), auto-correct substitution (7; 18.9%), and addition of letters (5; 13.5%). Thirty-six grammatical-error instances were identified across seven categories: subject-verb agreement (8; 22.2%), tense inconsistency (6; 16.7%), preposition errors (6; 16.7%), article misuse (4; 11.1%), run-on sentences (4; 11.1%), sentence fragments (4; 11.1%), and structurally simplistic constructions (4; 11.1%). The study further considers the pedagogical implications of these findings within a digitally mediated academic-writing environment. The results suggest that the educational value of automated writing assistance depends not simply on the availability of the technology but also on students' ability to evaluate, interpret, and learn from the feedback it provides. The findings indicate that although digital writing technologies may assist students by identifying or correcting some surface-level errors, they do not eliminate persistent difficulties involving orthographic conventions, lexical choice, grammatical agreement, tense consistency, and sentence construction. The study argues that auto-correct and auto-suggestion should be regarded as supplementary writing aids rather than substitutes for students' independent proofreading and linguistic knowledge. The findings are interpreted within Vygotsky's Sociocultural Theory, particularly the concepts of mediation and scaffolding.

Keywords: Auto-Correct, Auto-Suggestion, Academic Writing, Spelling Errors, Grammatical Errors

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1. INTRODUCTION

Digital technologies have become increasingly embedded in contemporary writing practices. Students now produce a substantial proportion of their academic texts through smartphones, tablets, laptops, word-processing applications, messaging platforms, and other digital environments. These technologies frequently incorporate automatic language-support features, including spelling correction, predictive text, word completion, grammar suggestions, and context-sensitive recommendations. Such features are intended to facilitate efficient text production and reduce linguistic errors. However, the convenience provided by these technologies also raises questions about their implications for students' independent language knowledge and their ability to monitor and revise their own writing.

Auto-correct generally operates by identifying a word or character sequence that appears to violate an expected orthographic pattern and replacing it with a more likely form. Auto-suggestion or predictive text, by contrast, anticipates possible words or phrases as the writer enters text. These technologies are products of computational approaches to language processing that rely on lexical information, statistical probabilities, contextual patterns and, increasingly, neural language models (Bengio et al., 2003; Mikolov et al., 2013). Their effectiveness is consequently influenced by the relationship between the linguistic form produced by the writer and the alternatives available to the system.

The usefulness of automated writing assistance is particularly relevant in educational contexts. Students may benefit from immediate exposure to conventional spellings and from the correction of typographical errors. Repeated encounters with correct linguistic forms can potentially contribute to language learning when learners notice, interpret, and internalise the corrections. From a sociocultural perspective, digital writing technologies may, therefore, function as mediational tools that support learners' performance within their developing linguistic competence. However, mediation does not necessarily result in learning. A technological tool can provide assistance without ensuring that the learner understands why a correction is necessary or develops the ability to reproduce the correct form independently.

The distinction between assistance and learning is, especially important in academic writing. A student may produce a corrected sentence after accepting an automated suggestion without necessarily knowing the grammatical or orthographic principle underlying the correction. In such a situation, the immediate written product may improve while the learner's independent linguistic competence remains unchanged. Conversely, when a student examines a suggestion, identifies the reason for the correction, compares it with the original form, and subsequently applies the principle without technological assistance, the same tool can become part of a meaningful learning process. Thus, the educational significance of automated writing technology lies partly in the nature of the interaction between the learner and the tool.

Research on automated writing support has identified both opportunities and limitations. Studies of automated feedback have suggested that digital tools can assist learners in identifying some linguistic problems, although their usefulness varies according to the type of error, the quality of the feedback, and the learner's engagement with the feedback (Ranalli, 2018; Barrot, 2023). Similarly, research into predictive text and intelligent language technologies has demonstrated their capacity to facilitate text production while also raising concerns about accuracy, context sensitivity and user dependence (Godwin-Jones, 2018; Hládek et al., 2020).

Recent empirical research provides further support for a balanced understanding of automated writing assistance. Sari and Han (2024), for example, examined a combined automated-teacher feedback model in which students received automated feedback on sentence-level errors alongside teacher feedback on content and organization. Their study found benefits for writing self-efficacy and writing performance, although the two feedback conditions did not produce a significant difference in self-regulated writing

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strategies and neither was effective in reducing writing anxiety. The study is particularly relevant because it demonstrates that automated feedback can contribute positively to writing development when integrated with human feedback rather than treated as a complete replacement for it.

Similarly, Rahimi, Fathi, and Zou (2025) investigated automated written corrective feedback and academic writing among EFL learners from an activity-theory perspective. Their study examined dimensions including task achievement, coherence and cohesion, lexicon, and grammatical range and accuracy. Their findings reinforce the relevance of examining automated feedback within a broader social and pedagogical environment rather than considering the technology in isolation. The present study complements such research by focusing specifically on the observable spelling and grammatical errors that remain in students' completed academic texts.

One particularly important limitation is the distinction between formal correctness and contextual appropriateness. An automated system may recognise that a word is orthographically legitimate without recognising that it is inappropriate in a particular sentence. Homophone errors illustrate this problem clearly. Words such as *there and their,* its and it's, and affect and effect may each be correctly spelled according to a dictionary, while only one is appropriate in a particular context. Automated correction can, therefore, fail to identify an error that requires semantic and grammatical interpretation rather than simple orthographic matching.

A related problem occurs when an automated system replaces an intended word with another legitimate word. Such substitution can produce an apparently well-formed sentence that nevertheless differs from the writer's intended meaning. In this respect, the presence of a correctly spelled word in a text does not necessarily demonstrate successful language use. The writer must still exercise independent judgement in determining whether the selected word accurately expresses the intended meaning.

This problem is particularly significant in academic writing because academic discourse places considerable demands on lexical precision. A word that is merely possible in a sentence may not be the word that accurately expresses the intended relationship between ideas. Consequently, students need to develop the ability to distinguish between grammatical possibility and contextual appropriateness. Automated systems can facilitate this process when they provide useful alternatives, but they can also obscure it when students accept suggestions without considering meaning.

The present study examines spelling and grammatical errors in thirty digitally produced academic texts. Rather than assuming that every observed error was directly caused by auto-correct or auto-suggestion, the study identifies patterns that are relevant to the functioning and limitations of these technologies. This distinction is important because the examination of completed texts alone cannot establish precisely which correction was accepted, rejected, suggested, or generated by an automated system. The study, therefore, focuses on the linguistic evidence contained in the texts and interprets it cautiously within the broader literature on digital writing assistance.

The study is also motivated by the need to distinguish between an error observed in a digitally produced text and an error demonstrably caused by digital technology. This distinction strengthens the methodological position of the research. A completed script does not preserve the entire sequence of events that produced it; it does not necessarily show the words initially typed by the student, the alternatives proposed by the device, whether a suggestion was accepted, or whether the student manually altered the suggested form. Consequently, the present study treats the data as evidence of linguistic patterns occurring in technology-mediated writing rather than as direct experimental evidence that the technology caused each error.

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The study is guided by five objectives. It examines the major spelling-error patterns occurring in the select texts; identifies grammatical errors in the texts; determines the relative frequency of the identified error categories; considers the ways in which the observed patterns relate to the capabilities and limitations of auto-correct and auto-suggestion; and discusses the implications of automated writing assistance for students' independent spelling and grammatical proficiency.

More specifically, the study seeks to contribute to discussions of digital literacy by asking what students still need to know and be able to do when writing technologies can automatically supply, modify, or suggest linguistic forms. The central issue is, therefore, not whether students should use automated tools, but how such tools can be used without weakening independent linguistic awareness.

2. CONCEPTUAL AND THEORETICAL BACKGROUND

2.1 Auto-Correct and Auto-Suggestion

Auto-correct and auto-suggestion are related but distinguishable forms of automated writing assistance. Auto-correct primarily responds to text that has already been entered, while auto-suggestion attempts to predict possible words or sequences before the writer has completed them. Both technologies depend on computational representations of language, although their specific algorithms vary across applications and devices.

The development of automated spelling correction has a long history in computational linguistics. Earlier systems relied heavily on dictionaries, edit distance and manually developed linguistic rules (Kukich, 1992; Pollock & Zamora, 1984). Contemporary systems increasingly combine lexical resources with statistical and neural language models. Predictive systems can use information about preceding words and larger contextual patterns to generate probable continuations (Bengio et al., 2003; Mikolov et al., 2013).

The principal benefit of these technologies is efficiency. Writers can produce text more rapidly when the system automatically corrects typographical errors or suggests likely continuations. In educational settings, this can reduce the cognitive and mechanical burden associated with writing. However, speed and convenience do not necessarily correspond to improved linguistic competence. If students accept suggestions without evaluating them, they may become less attentive to the relationship between form, meaning and context.

Auto-correct may, therefore, be understood as operating at several levels. At the simplest level, it can identify typographical sequences that differ from recognized lexical forms. At a more sophisticated level, automated systems can use surrounding context to determine whether an alternative word is more probable. Auto-suggestion works somewhat differently because it is anticipatory; it offers possible continuations before the writer has necessarily completed the intended expression. These differences matter because the kinds of error produced or missed by the technologies depend partly on how the system interprets the writer's input.

For example, an obvious typographical form such as *goverment* may be relatively easy for a system to associate with *government*. A contextual error involving *their and there*, however, is more difficult because both forms are legitimate words. The system must move beyond orthographic recognition and evaluate syntactic and semantic context. Even when contextual prediction is available, the system may still select a statistically probable alternative that does not correspond to the writer's intended meaning.

2.2 Automated Assistance and Academic Writing

Academic writing requires more than the production of orthographically correct words. It involves grammatical accuracy, appropriate lexical choice, sentence structure, cohesion, coherence, argumentation

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and sensitivity to disciplinary conventions. Automated systems are more effective at some of these levels than others.

Spelling correction is generally more straightforward when an incorrect sequence has no plausible alternative in the lexicon. A misspelt form such as *accomodation*, for example, can potentially be matched to accommodation. Context-sensitive lexical errors are more difficult because the incorrect form may itself be a legitimate word. Automated systems may, therefore, correct some surface errors while failing to detect errors requiring deeper linguistic interpretation.

The same principle applies to grammar. Automated systems can identify certain agreement or punctuation patterns, but grammaticality is often dependent on sentence structure and context. Research on automated feedback has consequently emphasised the need for learners to engage actively with corrections rather than treating automated suggestions as unquestionably accurate (Ranalli, 2018).

Academic writing also requires writers to make decisions that are not reducible to error correction. Writers must determine how ideas are organised, how claims are supported, how evidence integrated, and how relationships between propositions are expressed. Automated correction can assist with some linguistic surfaces of these processes, but it cannot remove the writer's responsibility for the intellectual content of the text. The distinction is important because a grammatically correct text may still be poorly argued, insufficiently supported, or inappropriate for its intended audience.

The implication for students is that digital writing assistance should form only one component of the writing process. Planning, drafting, revising, proofreading and evaluating arguments remain necessary activities. Automated tools can be introduced at different points in this cycle, but students should retain responsibility for deciding whether suggested changes improve the text.

2.3 Automated Feedback and Learner Engagement

Automated writing evaluation has increasingly been examined as a form of feedback in second-language and foreign-language writing. Unlike simple spelling correction, automated writing evaluation can provide information on grammar, usage, mechanics and, depending on the system, aspects of organization and development. The educational usefulness of such systems depends on the accuracy of the feedback and on the learner's response to it.

Sari and Han (2024) provide evidence that automated and teacher feedback can work productively together. Their study involved a 16-week quasi-experimental intervention in which one group received combined automated and teacher feedback while another received teacher-only feedback. The researchers reported greater gains in writing self-efficacy and writing performance for the combined feedback condition, while self-regulation and anxiety showed different patterns. The findings suggest that automated feedback can have educational value without implying that it should replace teachers.

This distinction is useful for interpreting the present data. If students continue to make spelling and grammatical errors despite having access to automated writing technologies, this does not necessarily mean that the technologies are ineffective. Rather, it may indicate that technological assistance addresses only some dimensions of writing or that students do not engage with the feedback in ways that promote learning.

Rahimi et al. (2025) similarly investigated automated written corrective feedback in relation to EFL learners' academic writing skills. Their activity-theory perspective is, especially relevant because it places technological feedback within an interaction among learners, writing tasks, social environments and mediational artefacts. Such a perspective supports the argument that writing technology should not be examined as an isolated causal agent. Students, teachers, tasks, technological tools and learning

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environments interact in shaping writing outcomes.

2.4 Sociocultural Theory

The study is situated within Vygotsky's Sociocultural Theory, particularly the concepts of mediation and scaffolding

Vygotsky (1978) argues that learning and cognitive development are shaped by social interaction and cultural tools. Human activity is mediated by tools, symbols and socially developed forms of knowledge. In educational contexts, scaffolding refers broadly to assistance that enables learners to perform tasks that they may not yet be able to perform independently.

Digital writing technologies can be considered contemporary mediational tools. Auto-correct can draw a learner's attention to a spelling form, while predictive text can provide possible lexical or phrasal alternatives. From this perspective, the technology may function as a form of external support. However, effective mediation should contribute to the learner's developing independent competence. If students merely accept automated suggestions without processing them, the assistance may remain external rather than becoming internalised knowledge.

The concept of mediation is particularly useful because writing is never entirely independent of tools. Pens, dictionaries, grammar books, word processors, spellcheckers and digital search systems have all mediated writing practices in different historical periods. What distinguishes contemporary automated systems is their increasing capacity to intervene directly in the production of language. The writer may, therefore, encounter a suggested word before consciously selecting one. This makes the learner's ability to evaluate the tool an increasingly important component of digital literacy.

This distinction is particularly important for the present study. The occurrence of errors in students' digitally produced texts does not, by itself, prove that automated writing assistance has caused those errors. Rather, the error patterns can be examined to determine what kinds of linguistic difficulties remain despite the availability of such tools. The theoretical framework, therefore, provides a basis for discussing whether technological assistance appears to support or potentially substitute for independent linguistic monitoring.

Within this framework, effective use of auto-correct can be understood as a progression from dependence towards greater independence. At an early stage, a learner may depend heavily on automated correction. With appropriate instruction, however, the learner may begin to recognise recurring error patterns and eventually correct them without technological assistance. The technology then becomes a mediational resource that supports development rather than an external mechanism on which the learner permanently depends.

3. EMPIRICAL REVIEW

Research into digital writing assistance has increasingly examined automated feedback, predictive technologies and computer-mediated writing. Godwin-Jones (2018), for example, discusses the growing role of artificial intelligence and automated technologies in language learning and highlights their potential to provide personalised support. Such technologies may increase learners' access to immediate linguistic information, but their educational value depends on how learners interact with the assistance provided.

Ranalli (2018) demonstrates the potential usefulness of automated corrective feedback while also emphasising the importance of learner engagement with feedback. Automated correction can identify certain errors, but learners must still understand and evaluate the feedback for it to contribute meaningfully to language development. This distinction is relevant to auto-correct because automatic replacement of an incorrect form does not necessarily mean that the writer has learned the correct form.

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Research into predictive language technologies also indicates that computational systems operate through probabilistic models of language. Neural language modelling has significantly improved the ability of systems to predict likely words and sequences (Bengio et al., 2003; Mikolov et al., 2013). Nevertheless, probability is not equivalent to communicative intention. A system may generate a linguistically probable continuation that is inappropriate for the writer's intended meaning.

The literature also indicates that automated feedback should be understood as part of a larger feedback ecology. Teacher comments, peer response, dictionaries, language-learning applications and automated systems may all contribute to the revision process. The relative usefulness of each source depends on the nature of the problem being addressed. A spelling system may be efficient for identifying an obvious typological error, whereas a teacher may be better positioned to explain why a particular word is inappropriate in an academic argument.

Sari and Han's (2024) findings are, especially useful in this regard because their research did not present automated feedback as a complete substitute for teacher feedback. Instead, the automated system addressed sentence-level errors while teachers addressed content and organisation. Their results, therefore, support a complementary model in which technological and human feedback perform partly different functions.

Rahimi et al. (2025) extend this discussion by examining automated written corrective feedback in an activity-theory framework. Their research considered academic writing dimensions including task achievement, coherence and cohesion, lexical resources, and grammatical range and accuracy. The relevance of this study to the present research lies in its recognition that automated feedback operates within a mediated learning environment rather than independently of learners, teachers and writing activities.

Nevertheless, a gap remains in research that begins with naturally occurring student errors and examines the kinds of spelling and grammatical problems that persist in completed digitally produced academic texts. Many intervention studies examine improvement in scores after students receive automated feedback. The present study instead asks a complementary question: what kinds of error are visible in students' final texts, and what do those errors suggest about the limitations of relying on automated writing assistance?

Recent scholarship on artificial intelligence and language education has similarly stressed the importance of maintaining human agency in technology-mediated writing. Automated tools can support writing processes, but learners continue to require linguistic knowledge and critical awareness in order to evaluate machine-generated or machine-suggested language. Consequently, digital writing assistance should be considered part of the writing environment rather than a replacement for linguistic competence.

The literature reviewed above provides a basis for examining the error patterns found in the present data. However, the present study differs from studies based primarily on learners' perceptions or experimental comparisons because it examines naturally occurring linguistic forms in students' assignment scripts.

This distinction gives the study a useful descriptive contribution. It does not attempt to establish the superiority of one writing technology over another. Rather, it documents specific spelling and grammatical patterns and interprets them in relation to what automated systems can and cannot reasonably be expected to accomplish.

4. METHODOLOGY

The study adopted a qualitative content-analysis design supplemented by descriptive quantitative analysis. The data comprised thirty assignment scripts produced by tertiary-level students across different

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disciplines. The scripts represented different assignment types and were produced using digital devices, including smartphones and laptops. The original dataset identified the scripts individually as S1–S30, thereby allowing particular examples to be traced to their respective texts. The scripts were examined for spelling and grammatical features relevant to the objectives of the study.

The sampling was purposive because the texts were selected for their suitability for examining digitally produced student writing and the linguistic features relevant to the study. The analysis involved identifying error forms, determining their intended forms, grouping them into recurring categories, and calculating the frequency and percentage of each category. The qualitative component involved interpreting the linguistic characteristics of the errors, while the quantitative component provided descriptive counts of their distribution.

The analysis does not claim that every error in the scripts was directly generated by auto-correct or auto-suggestion. Such a claim would require information about the specific device or application settings, the suggestions presented to each student, and whether students accepted, rejected or modified those suggestions. Instead, the study examines the relationship between the observed error patterns and known capabilities and limitations of automated writing technologies.

The methodological distinction between observation and causation is central to the credibility of the study. The data permit the researcher to establish that particular spelling and grammatical forms occurred in the students' texts. They do not, however, provide a complete record of the technological processes that preceded the final forms. Accordingly, the categories are treated as descriptive classifications of the observed data. Where a form appears compatible with an auto-correct substitution, it is discussed as such, but the analysis does not claim that the device necessarily generated the error unless the available evidence supports that interpretation.

The use of descriptive statistics is appropriate because the purpose is to show the distribution of observed error categories rather than to generalise statistically to all tertiary students. Frequences and percentages provide a clear representation of which error types were most common within the thirty scripts. The qualitative interpretation then explains why particular categories may be, especially relevant to automated writing technologies.

The data has 37 spelling-error instances: 14 omissions, 7 auto-correct substitutions, 11 homophone confusions, and 5 additions. These figures sum to 37 and represent the complete spelling-error classification used in this study. The grammatical-error data are 36 in number. The seven categories are: subject-verb agreement, tense inconsistency, preposition errors, article misuse, run-on sentences, sentence fragments, and structurally simplistic corrections.

5. RESULTS AND DISCUSSION

5.1 Spelling Errors

The examination of the thirty scripts identified 37 spelling-error instances distributed across four categories: omission of letters, auto-correct substitution, homophone confusion, and addition of letters. The corrected distribution is presented in Table 1.

Table 1: Frequency Summary of Spelling-Error Categories

Error Category	Frequency	Percentage (%)
Omission of letters	14	37.8
Auto-correct substitution	7	18.9

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Homophone confusion	11	29.7
Addition of letters	5	13.5
Total	37	100.0

Source: Researchers' Field Data, 2026.

The largest category was omission of letters, with 14 instances (37.8%). Examples include *accomodation* for *accommodation*, *occurence* for *occurrence*, *enviroment* for *environment, goverment* for *government*, *arguement* for *argument*, and *developement* for *development*. These forms indicate difficulties with conventional English orthography. They also demonstrate that the availability of automated correction does not guarantee that all spelling problems will disappear from students' final texts.

The relatively high frequency of omissions is significant because many such errors involve familiar academic words. Students may know the words conceptually while experiencing difficulty reproducing their conventional orthographic forms consistently. This distinction between lexical knowledge and orthographic control is important in academic writing. A student may understand the meaning of *government* or *environment* perfectly well but still omit a letter during rapid digital composition. Automated correction can potentially identify such forms, but the persistence of the errors indicates that correction technology does not eliminate the need for careful proofreading.

The second-largest category was homophone confusion, with 11 instances (29.7%). Examples included *their are many* for *there are many*, *effect on the learner* for *affect on the learner*, *it's role in learning* for *its role in learning, principle reason* for *principal reason*, and *compliment each other* for *complement each other.* These errors are particularly significant because each erroneous form is itself a legitimate English word. Consequently, a system designed primarily to detect orthographic anomalies may not flag the error when the problem lies in contextual or semantic selection.

Auto-correct substitution accounted for seven instances (18.9%). Examples include defiantly improved for definitely improved, pubic institutions for public institutions, and form the analysis for from the analysis. These examples illustrate a potential problem with automated substitution: the resulting word may be correctly spelled but inappropriate in context. Such errors can be more difficult to detect than ordinary spelling mistakes because the resulting form may not attract the visual attention that an obviously misspelt word would receive.

The category of addition of letters recorded five instances (13.5%). Examples include *writting skills* for *writing skills*, *basicaly* for *basically*, and *comming years* for *coming years.* These errors may reflect typing difficulty, incomplete proofreading or limitations in the correction process. Their relatively lower frequency should not, however, be interpreted as evidence that auto-correct has eliminated other forms of spelling difficulty.

5.2 Grammatical Errors

The analysis identified 36 grammatical-error instances across seven categories. These comprised subject-verb agreement, tense inconsistency, preposition errors, article misuse, run-on sentences, sentence fragments, and structurally simplistic constructions.

Table 2: Frequency Summary of Grammatical-Error Categories

Error Category	Frequency	Percentage (%)
Subject-verb agreement	8	22.2

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Tense inconsistency	6	16.7
Preposition errors	6	16.7
Article misuse	4	11.1
Run-on sentences	4	11.1
Sentence fragments	4	11.1
Simplistic structures	4	11.1
Total	36	100.0

Source: Researchers' Field Data, 2026.

Subject-verb agreement was the most frequent grammatical category, accounting for eight instances (22.2%). Examples include *The students was asked to...*, *Each of the participants are...*, *The list of criteria were provided*, and *A number of issues has been....* These examples demonstrate difficulties with agreement between grammatical subjects and their corresponding verbs.

Tense inconsistency recorded six instances (16.7%). Examples include collected data and then proceeds to analyse and began to write and later submit. Such errors demonstrate inconsistency in the selection of tense within a sentence. Although the data cannot establish that predictive text caused these inconsistencies, they indicate areas of grammatical knowledge that remain unresolved despite the availability of digital writing assistance.

Preposition errors also recorded six instances (16.7%). Examples include discusses about the challenges, emphasis on that students should, and cope up with difficulties. These forms reflect difficulties with verb-preposition and noun-preposition combinations. Such collocational problems can be challenging for automated systems because grammatical acceptability depends partly on the relationship between words within the sentence.

Article misuse accounted for four instances (11.1%). Examples include *a information was provided* and *a university student need an advise.* These examples reflect difficulties involving article selection and noun countability. The form information, for example, is normally treated as an uncountable noun in standard English, while advice is likewise uncountable.

Run-on sentences and sentence fragments each accounted for four instances (11.1%). These errors involve sentence-boundary and clause-structure problems. The occurrence of such errors indicates that producing text through digital interfaces does not automatically ensure appropriate sentence organisation.

Finally, structurally simplistic constructions accounted for four instances (11.1%). The original data identified repeated formulaic openings such as It is important to note that... and It is also important that.... Although formulaic language is not necessarily grammatically incorrect, repetitive sentence structures may indicate restricted syntactic variety in students' academic writing.

5.3 Auto-Correct and Spelling Proficiency

The findings suggest that auto-correct can provide useful assistance with certain forms of spelling error, but its assistance is necessarily limited. The existence of 37 spelling-error instances in the final texts demonstrates that automated correction does not guarantee orthographic accuracy.

The most frequent category was omission of letters, representing 37.8% of the spelling errors. Some of these forms, such as *accomodation* and *goverment,* are conventional spelling difficulties that may be identified by automated systems. Their persistence in final texts could reflect several possibilities,

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including failure of the system to detect the form, failure of the student to accept the correction, or writing processes in which the student did not independently review the final text. The available data do not permit a distinction among these possibilities.

Homophone confusion accounted for 29.7% of the spelling errors. This category is particularly relevant to the limitations of automated spelling correction because the incorrect form is often a legitimate lexical item. A system may, therefore, *recognise their, effect, it's, principle*, or compliment as correctly spelled words even when the contextual choice is inappropriate. These cases demonstrate why automated spelling correction cannot replace semantic and grammatical proofreading.

The seven auto-correct substitution errors are also noteworthy. The examples suggest that an automated system may sometimes produce a legitimate but contextually inappropriate word. The presence of such substitutions indicates that users need to examine suggested corrections rather than accepting them automatically. The finding is consistent with broader research showing that automated feedback and computational writing assistance are most useful when learners actively engage with the feedback rather than simply accepting machine-generated forms.

From the perspective of Sociocultural Theory, automated correction can be understood as a mediational resource. It can potentially assist students in performing tasks that are initially difficult. However, mediation becomes educationally productive only when the learner engages with the tool in a way that contributes to developing independent knowledge. Persistent spelling errors in the present data, therefore, suggest the need for explicit instruction in proofreading and orthographic awareness alongside technological assistance.

5.4 Auto-Suggestion and Grammatical Proficiency

The 36 grammatical-error instances provide evidence that automated assistance does not remove the need for independent grammatical monitoring. Subject-verb agreement was the most frequent grammatical category, followed by tense inconsistency and preposition errors.

The relationship between these errors and auto-suggestion must be interpreted cautiously. Predictive systems may influence the speed and direction of text production, but the presence of a grammatical error in a final script does not establish that the system generated the error. It may instead indicate that the student accepted a suggestion, failed to notice an error, or composed the sentence without relying on the suggested form.

The findings nevertheless demonstrate that automated assistance has clear limitations as a substitute for grammatical knowledge. Subject-verb agreement, tense consistency, preposition selection, article use and sentence boundaries involve relationships that extend beyond individual words. Effective use of language in these areas requires knowledge of grammatical structure and context.

The findings also have implications for the concept of scaffolding. A technological tool may provide immediate assistance, but such assistance should ideally become less necessary as the learner develops independent competence. If students depend on automated suggestions without understanding the linguistic principles underlying them, the technology may facilitate immediate task completion without necessarily promoting long-term development.

5.5 Implications for Students' Academic Writing

The findings have several implications for academic writing instruction. First, students should be taught that automated correction is an aid rather than an authority. A suggested correction should be evaluated in relation to the intended meaning of the sentence.

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Second, instruction should distinguish spelling accuracy from contextual word choice. Students need to understand that a word can be correctly spelled and still be inappropriate in context. The relatively high frequency of homophone confusion in the data makes this distinction particularly important.

Third, proofreading should remain an explicit component of academic writing instruction. Students should be encouraged to read completed texts independently rather than assuming that the absence of automatic error notifications means that the text is linguistically accurate.

Fourth, writing instruction should incorporate activities that require students to explain corrections. Rather than simply changing their to there, for example, students should be able to explain the semantic and grammatical distinction between the two forms. Such activities can promote the internalisation of linguistic knowledge envisaged in sociocultural approaches to learning.

Finally, lecturers should recognise that students' digital writing practices are now part of the broader literacy environment. Rather than prohibiting automated tools entirely, academic writing instruction can teach students responsible and critical use of them. The objective should be to develop students who can benefit from technology while retaining independent control over linguistic decisions.

6. CONCLUSION

This study examined spelling and grammatical errors in thirty digitally produced academic texts, with particular attention to patterns relevant to auto-correct and auto-suggestion. The analysis identified 37 spelling-error instances and 36 grammatical-error instances. The spelling errors comprised omission of letters, homophone confusion, auto-correct substitution, and addition of letters, while the grammatical errors comprised subject-verb agreement, tense inconsistency, preposition errors, article misuse, run-on sentences, sentence fragments, and structurally simplistic constructions.

The corrected spelling data show that omission of letters was the most frequent spelling category, followed by homophone confusion, auto-correct substitution, and addition of letters. The prominence of homophone confusion demonstrates an important limitation of automated spelling correction: an error may remain undetected when the incorrect form is itself a legitimate English word. The occurrence of contextually inappropriate substitutions similarly shows why students need to evaluate automated suggestions rather than accept them without reflection.

The grammatical findings further indicate that automated writing assistance cannot substitute for knowledge of grammatical structure. Subject-verb agreement, tense consistency, preposition selection, article use and sentence organisation remained problematic in the texts examined.

The study does not claim that all observed errors were caused by auto-correct or auto-suggestion. Rather, the findings demonstrate that the presence of automated writing assistance does not remove the need for independent linguistic knowledge and proofreading. Within Sociocultural Theory, digital writing technologies may function as mediational tools, but their educational value depends partly on how learners use them. When students actively evaluate and learn from automated assistance, the technology may contribute to development; when they treat it as a substitute for linguistic judgement, its educational value may be limited.

Consequently, auto-correct and auto-suggestion should be integrated into academic writing practices as supplementary tools rather than replacements for students' linguistic competence. Students need both technological literacy and independent language awareness in order to produce accurate and effective academic texts.

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7. RECOMMENDATIONS

1. Academic writing instruction should explicitly teach students how auto-correct and auto-suggestion work and should emphasise that automated suggestions are not necessarily correct. Students should be trained to evaluate corrections according to context, meaning and grammatical structure.
2. Lecturers should incorporate proofreading exercises into academic writing courses. Such exercises can require students to identify errors that automated systems fail to detect, particularly homophone confusion and contextually inappropriate lexical choices.
3. Students should also be encouraged to maintain independent knowledge of spelling and grammar rather than relying exclusively on automated correction. Digital tools should support, rather than replace, the development of linguistic competence.
4. Institutions should provide digital-literacy training that includes responsible use of automated writing technologies. Such training should address both the benefits and limitations of predictive and corrective technologies.
5. Future studies should use experimental or longitudinal designs to establish more directly how auto-correct and auto-suggestion influence students' writing. Researchers could compare texts produced with automated assistance and texts produced without it, record the suggestions presented to participants, and examine whether students accept or reject those suggestions. Such designs would make it possible to move beyond the patterns observed in completed texts and provide stronger evidence concerning the actual effects of automated writing assistance.

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