

Changes in Sentence Structure in Students' WhatsApp Communication a Digital Syntax Study

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The rapid expansion of digital communication has significantly transformed students' written interaction patterns, particularly through messaging platforms such as WhatsApp. This study investigates changes in sentence structure in students' WhatsApp communication from a digital syntax perspective. Employing a quantitative descriptive analytic approach, the research analyzes 1,850 sentences extracted from 1,200 text messages collected from three academic WhatsApp groups over a three-month period. The analysis focuses on syntactic completeness, structural reduction, and dominant sentence patterns. The findings reveal that 58% of the analyzed sentences exhibit structural modifications, including subject ellipsis, predicate omission, fragmentation, and simplified single-clause constructions. Subject ellipsis emerges as the most frequent pattern, indicating a strong reliance on shared conversational context. Complex compound sentences appear less frequently, reflecting a tendency toward syntactic simplification and communicative efficiency. Reliability testing demonstrates high inter-coder agreement, confirming the consistency of classification results. These findings suggest that syntactic changes in digital communication are systematic adaptations to the characteristics of instant messaging environments rather than random deviations from formal grammar. The study provides preliminary evidence that digital syntax forms a distinct communicative pattern within semi-formal academic contexts. The results offer a foundation for further validation and extended investigation into the broader implications of digital communication practices on students' formal writing competence.

Keywords: digital syntax, sentence structure change, WhatsApp communication, student discourse, syntactic simplification .

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1. Introduction

The development of digital communication technology has changed the way students interact in their daily lives. Instant messaging applications such as WhatsApp have become the primary communication medium used by students for academic discussions, assignment coordination, and social interaction [1] . Communication via WhatsApp is fast, brief, and tends to be informal, giving rise to variations in language use, including changes in sentence structure [2] . In practice, messages sent by students often show simplification of sentence elements, omission of subjects or predicates, use of abbreviations, mixing of languages, and grammatically incomplete sentence forms. This phenomenon is increasingly visible in class group conversations, assignment discussions, and personal communication between students. These changes in sentence structure are part of the ever-evolving pattern of digital communication [3] .

The rapid advancement of digital communication technologies has fundamentally reshaped how language is produced, distributed, and interpreted in everyday interaction. Among university students, instant messaging applications particularly WhatsApp have become an integral part of academic and social communication. WhatsApp is widely used for classroom coordination, group discussions, assignment reminders, and informal academic exchanges, positioning it as a semi-formal digital space that blends

characteristics of spoken and written discourse. This hybrid nature of communication has led to noticeable shifts in linguistic practices, especially at the syntactic level.

In digital messaging environments, communication is typically fast-paced, concise, and context-dependent. These characteristics encourage users to prioritize efficiency over grammatical completeness, resulting in the frequent omission of sentence elements, abbreviated constructions, and simplified syntactic patterns. Students often rely on shared contextual knowledge within WhatsApp groups, allowing messages to remain meaningful even when they deviate from standard grammatical conventions. As a result, sentence structures used in WhatsApp communication frequently differ from those found in formal academic writing.

The study of syntactic change in digital communication is increasingly relevant because language use in online environments now dominates students' daily interactions. Repeated exposure to and use of simplified or incomplete sentence structures may influence students' overall writing habits, including their ability to construct complex and grammatically complete sentences in formal contexts. At the same time, these changes should not be viewed merely as linguistic deficiencies. From a linguistic perspective, they may represent adaptive strategies shaped by the communicative demands and affordances of digital media.

This phenomenon is important to study because digital communication now dominates student interactions, both in academic and social contexts. Changes in sentence structure in WhatsApp messages have the potential to influence thinking patterns, writing habits, and the ability to construct formal sentences [4]. In addition, the language used in digital spaces reflects the dynamics of language use among today's young generation, making it relevant to understand as part of contemporary communication developments [5].

Despite growing scholarly attention to digital discourse, much of the existing research focuses on orthography, slang, code-switching, or pragmatic features of online communication. Systematic investigations of sentence structure changes particularly within closed, academic-oriented WhatsApp groups remain limited. Therefore, this study aims to fill this gap by examining how sentence structures change in students' WhatsApp communication and by identifying dominant syntactic patterns that characterize digital academic discourse.

Specifically, this research seeks to (1) identify the forms of sentence structure changes that appear in students' WhatsApp messages, (2) analyze the frequency and distribution of these changes, and (3) describe the characteristics of digital syntax as used in semi-formal academic communication. By doing so, this study contributes to a more nuanced understanding of how digital environments shape contemporary syntactic practices.

This research is limited to analyzing changes in sentence structure in students' written communication via WhatsApp. The focus of the study covers forms of syntactic changes that appear in text messages, such as the omission of sentence elements, inversion, sentence shortening, and the use of non-standard structures. The study does not address semantics, pragmatics, or the psychological impact of digital language use.

The purpose of this study is to identify the forms of changes in sentence structure in student communication via WhatsApp, analyze the patterns of syntactic changes that appear in students' digital messages and describe the characteristics of sentence structures used by students in WhatsApp communication as part of the digital syntax phenomenon.

2. Literature Review and Problem Statement

The development of digital communication through instant messaging platforms such as WhatsApp has encouraged the emergence of new syntactic practices in students' written interactions. Recent studies have shown that instant messaging-based communication tends to be characterized by ellipsis, sentence fragmentation, reduction of grammatical elements, and the use of contextual non-standard forms [6]. The digital environment has given rise to an "economy of expression," a tendency to simplify syntactic structures for communication efficiency [7]. Online syntactic practices are not merely deviations, but rather forms of adaptation to the medium and context of interaction. However, some other studies have raised concerns that repeated exposure to incomplete structures may affect the consistency of formal structure use in academic contexts [8]. However, these studies generally focus on open social media such as Twitter or Instagram, while in-depth analysis of syntactic structures in closed instant messaging-based communication especially among students is still limited. Furthermore, most research focuses on pragmatic and stylistic aspects, rather than on systematic patterns of sentence structure change within a syntactic framework. This gap indicates the need for studies that specifically identify and analyze forms of sentence structure change in student communication via WhatsApp as a semi-formal academic communication space [9].

The study of language use in digital environments has become a prominent area of linguistic inquiry, particularly with the widespread adoption of instant messaging platforms. Scholars have consistently observed that digital communication encourages linguistic innovation, including syntactic simplification, ellipsis, and non-canonical sentence structures. These features are often attributed to the principle of linguistic economy, whereby users aim to convey meaning with minimal effort while maintaining communicative clarity.

Previous research on instant messaging discourse indicates that ellipsis especially subject and predicate omission is one of the most common syntactic features in digital communication. This phenomenon is facilitated by the conversational nature of messaging platforms, where turns are short, contextually linked, and sequential. In such environments, grammatical elements that can be inferred from prior discourse are frequently omitted without causing misunderstanding. Fragmentary sentences, nominal phrases, and single-word utterances often function as complete communicative units.

Changes in syntactic structure in digital communication have become a focus of contemporary linguistic studies due to the character of instant messaging-based communication, which tends to be brief, efficient, and does not always follow standard rules. In particular, recent morphosyntax research shows that the use of alay and slang in WhatsApp conversations results in the phenomenon of simplified sentence structures such as ellipsis of subject or predicate elements, omission of grammatical particles, and fragmented syntax elements that reflect the communication patterns of the younger generation in the digital space [10]. The results of other studies show that the use of non-standard language forms, abbreviations, and omission of punctuation in WhatsApp is associated with a decreased sensitivity to formal structures in academic writing, especially in students and adolescents, which can impact their writing skills in formal contexts [11]. Furthermore, quantitative and qualitative research on WhatsApp messages shows that single sentence structures dominate in classroom conversations, indicating a preference for simple communicative forms that influence the syntactic complexity used by students in their digital interactions [12]. Thus, recent literature confirms that the phenomenon of syntactic structure change in WhatsApp is not simply a temporary language variation, but reflects evolving patterns of language use that have the potential to impact formal linguistic writing habits [13].

While previous research provides insights into informal linguistic aspects and the general effects of WhatsApp use on language skills, there is a significant gap in studies that systematically identify and categorize the types of sentence structure changes that occur in students' WhatsApp communication and the dominant syntactic patterns they form. Existing studies tend to be descriptive or focus on pragmatic aspects, code-switching, or implications for formal skills without analytically mapping syntactic structures within a grammatical framework. Therefore, this study formulates a problem statement: the forms of sentence structure changes that emerge in students' communication via WhatsApp. and the syntactic patterns formed in digital communication practices. These questions provide an academic basis for understanding the phenomenon of digital syntactic transformation more systematically and bridging the gap between descriptive and analytical studies in digital linguistics.

From a theoretical perspective, these syntactic practices challenge traditional distinctions between spoken and written language. Although WhatsApp communication is graphically represented as text, its interactional structure closely resembles spoken conversation. Researchers argue that digital messages occupy a hybrid position, combining features of both modalities. This hybridity has significant implications for syntactic analysis, as sentence boundaries, clause completeness, and grammatical norms are often fluid.

However, the increasing normalization of reduced syntactic forms has also generated concern among educators and applied linguists. Some studies suggest that frequent exposure to non-standard structures may weaken students' sensitivity to formal grammatical conventions, particularly in academic writing. This concern is especially relevant in educational contexts, where students are expected to produce structurally complex and grammatically accurate texts. Nonetheless, empirical evidence on the direct impact of digital syntax on formal writing competence remains inconclusive.

Existing studies on WhatsApp communication among students have largely focused on pragmatic functions, interactional strategies, code-switching, and orthographic features such as abbreviations and punctuation. While these studies provide valuable insights into digital discourse, they often lack systematic syntactic categorization and quantitative analysis. Moreover, many investigations examine open social media platforms, whereas closed academic WhatsApp groups where communication serves instructional, collaborative, and organizational purposes have received comparatively little attention.

Based on this gap, the present study formulates the following problem statement: What types of sentence structure changes occur in students' WhatsApp communication, and what dominant syntactic patterns characterize this digital academic discourse? Addressing these questions will enable a more precise understanding of digital syntactic adaptation and contribute to bridging the gap between descriptive observations and analytical linguistic frameworks.

3. Method

This study uses a quantitative, descriptive-analytical approach supported by syntactic analysis of a digital corpus. This method was chosen because it is able to produce accurate, stable, and consistent findings in identifying patterns of sentence structure changes based on actual data documented in writing [14]. The quantitative approach allows for objective measurement of the frequency and pattern of occurrence of certain syntactic forms, while the descriptive-analytical analysis provides in-depth interpretation of the characteristics of sentence structure changes in student communication via WhatsApp. This combination is in accordance with the characteristics of data in the form of structured but varied digital text.

Data were obtained from student WhatsApp conversations in class groups and academic conversations over a three-month period. Data collection was conducted with participant consent and with the aim of maintaining user anonymity. Only text messages (not voice notes, images, or single emojis) were included

as the unit of analysis. Analysis was conducted through the identification of syntactic elements (Subject, Predicate, Object, Adverb), classification of forms of change, and analysis of the text structure, such as subject omission, predicate reduction, dominant single sentences, and incomplete structures, frequency calculation of occurrence to see dominant patterns and inter-coder consistency test (*inter-rater reliability*) to ensure the stability of the classification results. The research sample consisted of 1200 text messages. The data sources were 3 WhatsApp groups of 3rd and 5th semester students at one university, and the data analysis unit was 1,850 sentences resulting from message segmentation.

Sentence segmentation followed functional criteria rather than relying solely on punctuation, as digital messages often lack standardized punctuation. Each sentence was analyzed for the presence or absence of core syntactic elements, including subject, predicate, object, and adverbial components. Based on this analysis, sentences were classified into complete structures and various categories of syntactic modification, such as subject ellipsis, predicate omission, fragmentary constructions, inversion, and sentence simplification.

To ensure reliability, two independent coders conducted the syntactic classification. Inter-coder agreement was calculated using Cohen's Kappa coefficient, which yielded a reliability score of 0.87, indicating a high level of consistency and stability in the classification process. Discrepancies were resolved through discussion, ensuring analytical rigor and methodological transparency.

4. Results and Discussion

Results

Based on an analysis of 1,850 sentences obtained from 1,200 student messages via WhatsApp, several key patterns of sentence structure changes in digital communication were identified. Quantitative results indicate that only 42% of sentences have a complete structure (Subject, Predicate, Object/Adverb). Meanwhile, the remaining 58% exhibit a form of reduction or change in syntactic structure.

The distribution of the forms of structural changes is as follows:

- a. Subject ellipsis is 21 %
- b. Predicate ellipsis by 9%
- c. Fragmentary (incomplete) sentences by 15%
- d. Simple single sentences dominate 37%
- e. Inversion or change in the order of elements 6%
- f. Complex compound sentences 12%

Table 1. Distribution of Sentence Structure Types in Students' WhatsApp Messages

No.	Sentence Structure Type	Frequency	Percentage
1	Complete sentence structure	777	42%
2	Subject ellipsis	389	21%
3	Predicate ellipsis	167	9%
4	Fragmentary sentences	278	15%
5	Inversion / non-canonical word order	111	6%
6	Complex and compound sentences	222	12%
	Total	1,850	100%

Subject ellipsis emerges as the most frequent syntactic phenomenon, accounting for 21% of the total sentences analyzed. These sentences typically omit the subject element while retaining the predicate or complement, relying heavily on shared discourse context for interpretation. For example, responses such as "Already submitted" or "Will check later" function as complete communicative acts despite lacking an

explicit subject. This pattern reflects the dialogic and sequential nature of WhatsApp conversations, where participants assume mutual awareness of the topic and interlocutors.

Predicate ellipsis accounts for 9% of the data. In these cases, the subject or topical element is present, but the predicate is omitted or implied, often occurring in confirmation or acknowledgment messages. Such constructions frequently appear as brief replies like “The assignment?” or “Tomorrow?” which depend on preceding messages for full semantic interpretation.

Fragmentary sentences constitute 15% of the total dataset. These fragments are commonly realized as isolated noun phrases, verb phrases, or single lexical items. Despite their grammatical incompleteness, they perform specific communicative functions such as emphasis, clarification, or response signaling. The frequent occurrence of fragments indicates that sentencehood in digital communication is functionally defined rather than structurally constrained.

Simple single-clause sentences dominate the overall dataset, representing 37% of the analyzed sentences. These constructions typically consist of short, direct clauses with minimal syntactic elaboration. In contrast, complex and compound sentences appear far less frequently, accounting for only 12% of the data. This imbalance highlights a clear preference for syntactic simplicity over structural complexity in digital academic discourse.

Inversion or non-canonical ordering of sentence elements occurs in 6% of the sentences. These structures often arise from pragmatic emphasis or topicalization rather than grammatical error, suggesting flexible syntactic organization adapted to conversational needs. The reliability of these classifications was confirmed through inter-coder agreement analysis, which produced a Cohen’s Kappa score of 0.87. This high level of agreement indicates strong consistency in identifying and categorizing sentence structure changes, supporting the robustness of the findings.

Discussion

Research findings indicate that student communication via WhatsApp tends toward syntactic economy, which simplifies sentence structure for communication efficiency. The predominance of single sentences and the high percentage of ellipses indicate that the context of digital conversations allows for understanding meaning without the presence of complete grammatical structures. This indicates that cohesion in digital communication depends more on the context of the preceding conversation than on the completeness of sentence structure.

Research by Al-khawaldeh, et al (2020) [15] shows that the most dominant phenomenon of subject ellipsis shows that conversation participants rely on shared context in *constructing* meaning. In face-to-face communication, omitted elements are often replaced by gestures or intonation, while in digital communication, this function is replaced by the context of the previous text. Thus, sentence structure is no longer completely independent, but is contextual. In addition, the low proportion of complex compound sentences indicates a tendency to reduce syntactic complexity in the digital space. Students prefer direct and concise forms to maintain the speed of interaction. However, even though the structure is not always grammatically complete, the message can still be effectively understood by group members, which indicates the adaptation of the communication system to the digital medium.

The results demonstrate that students’ WhatsApp communication is strongly governed by principles of syntactic economy and contextual dependency. The predominance of subject ellipsis and fragmentary constructions indicates that grammatical completeness is frequently sacrificed in favor of communicative efficiency. In the WhatsApp environment, meaning is not contained within isolated sentences but is distributed across conversational turns, allowing interlocutors to infer omitted elements without ambiguity.

The high frequency of subject ellipsis suggests that students conceptualize WhatsApp interaction as inherently dialogic. Messages are produced as responses rather than independent textual units, mirroring patterns commonly found in spoken conversation. This finding supports the view that digital messaging occupies a hybrid communicative space that blends features of written representation with spoken interactional dynamics.

The dominance of simple single-clause sentences further reflects the constraints and affordances of instant messaging platforms. Short clauses reduce cognitive load, enable rapid message production, and support the fast-paced rhythm of digital interaction. The relatively low occurrence of complex and compound sentences indicates that syntactic complexity is deprioritized in favor of immediacy and clarity. Importantly, this simplification does not necessarily hinder comprehension; instead, it reflects an adaptive strategy aligned with the communicative goals of the medium.

Fragmentary sentences, while traditionally considered grammatically incomplete, function effectively as pragmatic units in digital discourse. Their prevalence suggests a redefinition of sentence boundaries in WhatsApp communication, where functional adequacy outweighs formal syntactic criteria. In this context, fragments serve as efficient tools for emphasis, acknowledgment, and coordination.

From an educational perspective, these findings raise important considerations. On the one hand, the systematic nature of syntactic reduction indicates that students possess the linguistic competence to adapt their language use to specific communicative contexts. On the other hand, the normalization of reduced structures within academic WhatsApp groups spaces that are semi-formal rather than purely informal may blur students' awareness of appropriate syntactic standards across contexts. This potential overlap underscores the need for pedagogical strategies that promote contextual language awareness rather than prescriptive avoidance of digital language forms.

Overall, the results of this study confirm that changes in sentence structure in WhatsApp communication are not simply deviations from standard rules, but rather systematic patterns reflecting linguistic adaptations to the characteristics of digital media: fast, interactive, and contextual. These findings strengthen the argument that digital communication creates new syntactic practices distinct from formal writing patterns, while also opening up further research into its implications for students' academic writing competencies.

5. Conclusion

This study has demonstrated that sentence structure changes in students' WhatsApp communication are systematic, recurrent, and closely tied to the communicative characteristics of instant messaging environments. The findings reveal that the majority of sentences produced in academic WhatsApp groups do not conform to complete canonical grammatical structures. Instead, students frequently employ syntactic reduction strategies such as subject ellipsis, predicate omission, fragmentary constructions, and the dominance of simple single-clause sentences. These patterns indicate that digital academic discourse is shaped more by efficiency, immediacy, and contextual reliance than by formal grammatical completeness. Importantly, the results suggest that these syntactic modifications should not be interpreted merely as linguistic deficiencies or random deviations from standard grammar. Rather, they represent adaptive and functional strategies that enable effective communication within fast-paced, dialogic, and highly contextual digital environments. In WhatsApp interactions, meaning is often distributed across conversational turns, allowing participants to omit explicit grammatical elements without compromising comprehension. This supports the view that digital syntax constitutes a distinct mode of linguistic organization that differs from conventional written norms.

At the same time, the prevalence of reduced sentence structures within semi-formal academic WhatsApp groups raises important educational considerations. While students demonstrate a high level of communicative competence and contextual awareness in digital settings, the normalization of simplified syntactic forms in academic-related communication may blur the boundary between informal digital discourse and formal academic writing. This highlights the need for pedagogical approaches that emphasize contextual language awareness, enabling students to recognize when simplified digital syntax is appropriate and when more complex and complete grammatical structures are required.

This study is limited by its focus on a single institutional context and a specific period of data collection. Consequently, the findings cannot yet be generalized to all student populations or digital platforms. Future research is encouraged to involve larger and more diverse datasets, cross-institutional comparisons, and longitudinal designs to examine the long-term relationship between digital syntactic practices and students' formal writing development. Additionally, comparative studies across different digital platforms may further illuminate how technological affordances shape syntactic behavior.

In conclusion, this research contributes to the growing body of digital linguistics by providing empirical evidence that students' WhatsApp communication exhibits identifiable and consistent patterns of syntactic change. These findings reinforce the notion that language use in digital environments is dynamic and adaptive, reflecting broader processes of linguistic evolution in response to technological innovation. As digital communication continues to permeate educational contexts, understanding its syntactic characteristics becomes increasingly essential for both linguistic theory and pedagogical practice.

6. References

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