Effectiveness of Periodicity Theory in Enhancing Student's Writing Skills

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Abstract

This study investigates the integration of periodicity theory into teaching methodologies to address academic writing challenges among students. Periodicity theory focuses more on the cyclical nature of the writing process, offering insights into the organization and development of written discourse. This study examines the effectiveness of incorporating periodicity elements into teaching writing skills through a comprehensive methodology involving 10 students enrolled in the General English course. The results show significant improvements in students' writing, with notable improvements in coherence, organization, and the incorporation of periodicity elements. However, not all students have similar learning speeds, leading to others in the study requiring further refinement in grammar and the inclusion of new Macro or Hyper-Themes. Despite the few students who did not improve significantly, the study showed a substantial increase in students' writing skills when educators employ the periodicity concept.

Keywords: periodicity theory, writing, hyper-theme, hyper-new, systemic functional linguistics

1. Introduction

Academic writing requires learners to understand instructions and engage in the fundamental tenets of effective academic writing that involve logically presenting ideas to meet the instructions. In this process, instructional materials play a central role in informing learners about what is expected and trigger their logical organization and presentation of ideas to yield a coherent written piece. As such, educators constantly seek innovative methods to optimize students' proficiency and engagement in the writing process. The concept of periodicity has emerged as a significant framework educators use to help learners understand and improve writing instructions. Essentially, periodicity relates more to the recurrence of patterns or cycles, offering valuable insights into the structure and development of written discourse. Thus, the application of this model in contemporary teaching and learning settings has continued to attract scholars' attention.

It is important to note that academic writing remains a challenge for many students, particularly those learning English as a foreign language. In most cases, writing a coherent and understandable paper requires not only understanding the given instructions but also mastering the language to logically organize and present the ideas. The transition and flow of these ideas throughout the text also contribute to the readability of the academic writing, thus contributing to its overall quality. As such, students learning English as a second language face considerable challenges in presenting and expressing ideas and thoughts in writing.

Accordingly, this study investigates this academic writing problem among students, which often presents as difficulties in the coherent organization of ideas, ineffective argument expression, and inappropriate citation and referencing. These difficulties occur due to students' limited exposure to academic discourse, insufficient mastery of language skills, and unfamiliarity with disciplinary writing norms (Budjalemba & Listyani, 2020). In such cases, proper interventions are required to improve students' learning processes and enhance their ultimate proficiency in writing academic papers. Therefore, this study will focus on academic writing problems, determine appropriate discourse approaches, and propose valuable interventions to solve the problem.

This research is intended to aid our understanding of educational development. In essence, it reveals the potential impacts and importance of incorporating periodicity concepts in the learning process to enhance students' academic writing. This aspect would contribute to international students' mastery of the English language and in organizing and presenting ideas in academic papers. The findings of this study could also be used by policymakers and other stakeholders in the education sector to design and implement policies intended to reinforce the use of periodicity concepts in the teaching process. Because this model can contribute to improved learner performance, supporting its use through policy implementation can optimize student outcomes.

Selecting and assessing this topic is important, given that the target population comprises international students, and English is a foreign language for them. This language significantly differs from Arabic, which the learners consider their native language. Notably, writing in these two languages is different, and learners may encounter challenges when writing academic

papers in English. As such, incorporating the periodicity model into their learning process can play a fundamental role in improving their performance. In this study, emphasis is not placed on the spelling and grammar used in writing academic papers. Rather, the theory is applied to determine its implications for learners' correct use of topic sentences, the ultimate flow of ideas throughout the paper, correct formatting and referencing, and other components that define an effective academic paper. Such aspects are important in contributing to learners' overall academic achievement and career growth.

2. Literature Review

2.1 Periodicity Theory

This study incorporates the concept of periodicity, which is a crucial theory, which was developed by systemic functional linguistics, in understanding the writing process and the related challenges. This theory argues that the writing process displays recurring patterns characterized by phases of cognitive engagement and disengagement (Davilla, 2018). As such, this theory indicates that writing is a dynamic and iterative process involving multiple stages, such as planning, drafting, revising, editing, and making it nonlinear and non-static. As such, the theory requires writers to organize content in a rhythm that makes it more digestible. This theory suggests that writers undergo intense focus and concentration cycles as they frequently reflect on their ideas, rest, and revise the written concept before the final draft (Christie & Dreyfus, 2007). These cycles align with the natural rhythm of cognitive functioning, wherein individuals move from heightened cognitive activity to moments of mental relaxation or downtime. The theory acknowledges that external factors, like environmental stimuli, task demands, and individual differences, also shape a person's writing process (Halliday & Mathiessen, 2014; Pike, 1982). As such, writers often experience cognitive engagement fluctuations, depending on these external factors. Hence, the periodicity theory focuses more on the specific cycles in writing that determine a person's cognitive activities.

Various research has been conducted to examine writing pedagogy from different perspectives, and periodicity, which is an essential notion in systemic functional linguistics, is one of these perspectives. Martin and Rose (2007) related the notion of periodicity with information flow because it is "the way in which meanings are packaged to make it easier for us to take them in" (p. 188).

Scholars such as Pike (1982) utilized the word "*waves*" as a metaphor to describe the informational flow in a discourse. Pike's expression "*ripples on the tide*" refers to the meaning flows that result from merging these *ripples* with others to form a hierarchy of both small and large waves. These waves can show "a peak of a textual prominence that is followed by a trough of lesser prominence" (as cited in Martin & Rose, 2007, p. 189). From the perspective of periodicity, writers can package information into waves, creating informational waves that propose expectations of what would appear in a text through forwarded flagging, as well as consolidate these expectations by summarizing them back (Martin & Rose, 2007). These expectations, in addition, can be identified through further informational development in the text by shedding light on large informational waves, followed by small ones (Davila, 2018).

Halliday and Mathiessen (2014) considered the clause, from a textual meaning view, as a wave

of information: "The peak prominence at the beginning of the clause is referred to as its Theme" (Martin & Rose, 2007, p. 190). Commonly, *Themes* can be presented as the subject in a clause, unmarked Themes, and in some cases as marked Themes, which refer to the circumstantial factors such as time and place that signal new phases of a discourse (Martin & Rose, 2007). In the same vein, Halliday and Mathiessen (2014) called for the end of a clause as *New*. This refers to the textual prominence that is related to the expanded information as the text unfolds (Martin & Rose, 2007). Both *Theme* and *New* can be considered as the basic terms for *Hyper-Theme* and *Hyper-New* layers in discourse.

The idea of *Hyper-Theme* focuses on a larger scale of patterning of discourse (Martin & Rose, 2007), which involves more semantic and structural elaboration than the Theme (Davila, 2018). Because the Hyper-Theme announces the information the readers are about to read, it is the point of orientation for "what is to come" (Davila, 2018). Although Hyper-Theme provides predictions for each phase in discourse, "new information accumulates in each clause as the phase unfolds" (Martin & Rose, 2007, p. 195). This accumulation of new information represents the Hyper-New of the phase. It aims to inform us where we have been by understanding the Hyper-Themes (Davila, 2018). Martin and Rose (2007) stated that Hyper-New was not a paraphrase of Hyper-Themes, nor a summary of the wave's trough.

Figure 1

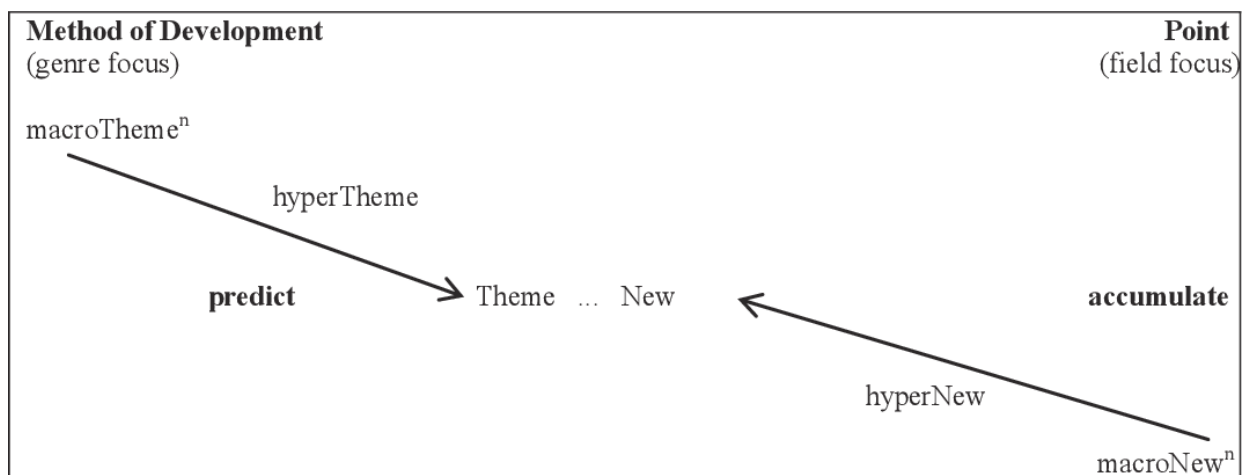*Layers of Themes and News in Discourse*

Figure 1. Layers of Themes and News in discourse (Martin & Rose, 2007).

Understanding the periodicity concept is crucial for instructors to enhance their approach to writing instructions. Previous studies (e.g., Davilla, 2018), showed that periodicity helps educators design instructional activities and interventions that capitalize on students' cognitive rhythms to ensure optimum learning outcomes. For instance, educators can rely on the theory in setting up regular student study meetings, weekly, biweekly, or monthly, per the group's needs. During such meetings, students can share information, discuss class materials, and exchange ideas on various topics. Moreover, the theory can help enhance digital

communication and improve peer teaching and learning. Such an approach involves students taking turns teaching each other on different topics or sharing their understanding of class materials. This approach also helps students exchange information and strengthen their knowledge and understanding of the subject matter (Piriyasilpa, 2013). Educators may also leverage the periodicity of information flow theory to provide structured opportunities for focused writing practice during periods of peak cognitive engagement to maximize students' productivity and skill development. Therefore, the periodicity of information flow theory is crucial to educators because it helps them maximize students' learning experience and cognitive productivity after learning their mental patterns.

Davila (2018) examined the role of integrating the notion of periodicity in teaching essay writing by comparing essays written by two students in the tertiary level. The first student received the traditional style of teaching composition writing, whereas the second student was exposed to the notion of periodicity while receiving writing instruction. The results revealed the essay written by the student who was exposed to periodicity showed more organized and consistent texts than the essay written by the first student who received traditional teaching.

Piriyasilpa (2013) studied the effect of periodicity on the argumentative essays that were written by third year Thai students at the university of Thailand. The participants were asked to write essays before and after exposure to the notion of periodicity, as an intervention, in order to examine its efficiency on their written performance. The results revealed that nearly 73% of the participants' writing showed development in organizing of arguments with a hyper Theme after being exposed to the notion periodicity. These essays demonstrated more effective employment of cohesive devices and more control of text structure among ideas while writing. Also, the participants showed positive attitudes towards their experience with the notion "periodicity" as they found beneficial not only for their English writing classes, but also for other written assignments.

3. Methodology

3.1 Participants

The study involved 10 students enrolled in Course 101 - General English at the College of Business Studies at the Public Authority for Applied Education and Training (PAAET) in Kuwait in 2023-2024 fall semester. General English is a compulsory subject for all students at PAAET and is aimed at enhancing their language skills for academic and professional communication in English. The students dedicated 4 hours per week to this course at this college.

3.2 Procedure

The following procedure was used to deliver the teaching lessons to observe and determine the key patterns and academic writing problems at the institution for the 10 students. The first step involved asking students to write an introductory paragraph about themselves without prior guidance on writing basics. Second, the instructor corrected the students' introductory paragraphs for grammar, punctuation, and coherence, without providing feedback. After the

correction, the next step was to assign students a main title, "pollution," asking them to write a paragraph on the topic. Each student received individual feedback on their title and topic sentence writing skills in this stage. Zhang and Hyland (2018) explained that teachers should provide feedback to students to help them understand their progress and motivate them to take substantial steps toward improving their writing skills. Therefore, using these comprehensive teaching exercises increases the chances of students improving their writing skills per the periodicity concept. At this point, the participants were first to be introduced to the periodicity theory to produce the following draft, according to the periodicity approach.

The next step was introducing practical worksheets on paragraph and sub-idea writing, with the instructor guiding students on organizing ideas coherently within paragraphs. After the guidance, each student was given a unique topic, such as "crime story" to write paragraphs on. The instructor displayed students' work anonymously on the board and allowed the class to provide feedback. Group feedback allows students to receive input from peers with diverse perspectives, experiences, and writing styles (Lee, 2017). This exposure can broaden students' understanding of different writing techniques, genres, and approaches. Besides, group feedback fosters a collaborative learning environment where students can learn from each other's strengths and weaknesses. They can collectively identify common writing issues and brainstorm solutions, leading to mutual improvement. The final stage involved the presentation of the correct writing examples, with a detailed discussion with the students. The instructor guided students on how to identify the main titles, main ideas, and supporting details in the examples.

The next step was to distribute worksheets containing scrambled sentences, tasking students to rearrange them to form coherent paragraphs. Once students had shown they grasped the content, the instructor engaged them in repeated writing practice on various topics such as "bears," "crime," "family," and "pets," receiving both individual and group feedback sessions. Therefore, the research adopted a comprehensive, structured learning approach to teaching and writing skills that integrated the concept of periodicity.

4. Findings

The following tables present the results of the study for the different exercises, as shown below. The selected samples represent four writing samples from two student exercises from different genres. The left columns show the writing samples of paragraphs before the students were exposed to periodicity theory, and the right columns represent the same students' writing after being introduced to periodicity theory. As illustrated in the methodology section, the participants are students in the college of business, and they had learnt writing during high school. The writing learning they had acquired was based on writing topic sentences. In this course, it is their first time producing paragraphs based on the periodicity approach. The highlighted phrases illustrate Hyper-Theme, and the underlined italicized phrases indicate Hyper-New.

Table 1

Student 1 Before and After Writing

Analysis	Draft 1 *(before being introduced to periodicity theory)*	Draft 2 *(After being exposed to periodicity theory)*
Hyper-Theme Hyper-New	Air pollution is dangerous. There is a big problem in the world, and it is very bad on environment. It is not good in a lot parts of the world.	Air pollution is big problem we have nowadays because we use so many things like cars bus or truck. We use gas that is that is not useful for the air. We can use bicycle. *The government should aware people that it serious problem that effect about our health and environment.*

Table 2

Student 1 Before and After Writing

Analysis	Draft 1 *(before being introduced to periodicity theory)*	Draft 2 *(After being exposed to periodicity theory)*
Hyper-Theme Hyper-New	There was a man working in a supermarket. The man had issues with a neighbor for a long time. One day the son of the neighbor went to the supermarket, and the man working there wants to revenge from his father so he killed the son. After that the father went to the supermarket to see what happened to his son. The supermarket man killed the father too. The police came to the supermarket and cough the man working there.	Crimes are an awful action. I saw a crime in the mall in Madrid, Spain. I was shopping with my mother, and there was a man standing next to me. The man looked weird and a big bag with him. Next, I saw the man reaching for the perfumes. Then, he quickly put him in his bag and ran away as fast as he could. People at the shop started screaming and were scared. Many of people thought he had a gun, so they kept running around and scream. Finally, few seconds later the police came and had the criminal with him, and gave back his items. That was my first time experiencing a crime. I really got scared because I was afraid that he could have a gun with him. Regardless of the reason he did what he did, *stealing and doing a crime is an awful thing to do and you get sued for it and could go to jail, even if it was stealing some items from a shop.*

5. Discussion

This section discusses the two drafts of the two students by comparing their first draft with the second draft to identify the improvement. In addition, the discussion elaborates on the general findings of the other students in this class. It is important to mention that the focus of this study was on Hyper-Theme and Hyper-New which is at the paragraph level because the course is not designed for writing. So there weren't enough contact hours for essay writing.

5.1 Writing Progress of Student 1

There are clear improvements in writing Hyper-Theme among students, which reflect on the success of the teaching approach in enhancing writing skills. The students wrote a concise Hyper-Theme in the texts that show the reader what will follow next. Comparing draft 1 and 2 for each student indicates that the students learned how to produce a text according to the information flow in the text, as proposed by the periodicity theory. Although they were aware of the need to write a topic sentence in the first draft, they were mostly lost on what to write next. After learning through the periodicity approach, most of the participants produced better writing structures. For example, in Table 1, student 1 wrote, "Air pollution is big problem we have nowadays because we use so many things like cars bus or truck," which indicates clear Hyper-Theme—not just to perform as a Hyper-Theme but also to guide the reader to what will come after this statement. The Hyper-Theme is concise and demonstrates what to expect next, including the negative aspects of pollution and its effect on the health and environment. Unlike the first draft, the Hyper-Theme serves as a topic sentence but only in a very general way as to what comes next in the text (e.g., Air pollution is dangerous). By comparing both Hyper-Themes in the first and second draft, one can clearly see they improved, and, after the learners acquired the periodicity approach, they had better text structure, especially for second language learners.

Moreover, the participants appreciated the periodicity method of writing because it not only offers the writer a departure point, that is, the Hyper-Theme, but also a destination in the text that is Hyper-New. This is evident in the second draft of the first student. As shown in Table 1, the student is clearly aware of the closing statement that plays the role of Hyper-New. The Hyper-New is "*The government should aware people that it serious problem that effect about our health and environment*." Disregarding the grammar errors they produced, the structure of the paragraph has clearly improved, which proves the significance of the theory for second language learners. Furthermore, the student attempted to unpack the information in the body of the paragraph according to the Hyper-Theme. This demonstrates that the students significantly improved in their writing in the second draft.

5.2 Writing Progress of Student 2

Hyper-Theme should highlight what is to come next in a discourse (Martin & Rose, 2007). In the narrative exercise, the Hyper-Theme improved in the second draft compared to the first one, as shown in Table 2. The second draft shown in Table 2 illustrates an example of well-structured writing. In this case, one would expect to read more about a story of a crime as stated like this, "Crimes are an awful action. I saw a crime in the mall in Madrid, Spain." Apparently, the

student unpacked the events of the story in a better way, which keeps the reader tracking the events in sequence. That was reflected in the information flow throughout the writing. More importantly, it indicates how the writer has become more aware of the writing technique. In contrast, the first draft of the story lacks a proper Hyper-Theme. So it is not easy to follow the information and not easy to expect what is to come first in the text. This acted as a topic sentence in the first draft: There was a man working in a supermarket. The topic sentence in this draft was not clear about whether the story was about the man or a crime, although the task was to write about a "crime." In addition, the first draft started with the body of the story, without orienting the reader to the coming information.

Information flow in Hyper-New significantly improved as educators took the students through learning activities. Where the student failed to use the Hyper-New correctly in the first draft, he was able to do so in the second draft. The sentence provided a conclusion to the student's new information in the paragraph. In terms of Hyper-New, the student wrote "*stealing and doing a crime is an awful thing to do and you get sued for it and could go to jail, even if it was stealing some items from a shop*." This sentence helps the reader summarize what the student wrote and understand where they are at the end of the discourse. In contrast, in the first draft, the student ended the story without the Hyper-New.

5.3 Writing Progress of the Other Students

The progress of the participants varied because some students have a lower level of language proficiency. However, for most of the students, they acquired better writing skills. The students' feedback and ability was positive. Students enhanced their writing progressively through the appropriate use of Hyper-Theme and Hyper-New. Commonly, they have applied topic sentences to orient the reader toward the topic. However, after being trained on Hyper-Theme and its relation to what's coming in the paragraph, the students demonstrated better applications of the theory and coherent flow of information in the paragraph in a different genre.

The students also demonstrated a solid understanding of Hyper-New. In the Hyper-New, the student offers a clear connection to the news, demonstrating a significant improvement from the first writing attempt, when she did not have an effective one. Although the students showed improvements in their writing exercises regarding Hyper-New, there is a need for more exercise and an enhanced learning process to further improve and perfect their skills. It is important to note that less focus was offered to the other concepts of the theory, such as Macro-Theme and Macro-New, because they were not asked to write essays (i.e., this course's objective was to write paragraphs).

6. Conclusion

This study elaborated on the importance of integrating periodicity concepts into teaching approaches to enhance students' academic writing skills. It has been shown that educators can design instructional activities that align with students' cognitive rhythms once they understand the cyclical nature of the writing process. Such an approach enhances learning outcomes, as revealed by the study's results. Notable improvements were in coherence, organization, and the

incorporation of periodicity elements. Even though some students demonstrated steady progress throughout the activities, others showed areas needing further refinement, such as grammar, coherence, and inclusion of new Macro or Hyper-Themes. Thus, the overall findings highlight the effectiveness of incorporating the periodicity theory into teaching methodologies to address academic writing challenges among students. Continuing efforts to refine teaching approaches and provide tailored support to individual learners based on their unique needs and learning styles will further enhance students' proficiency in academic writing.

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