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Effects of Topic Familiarity on Linguistic Aspects in EFL Learners' Writing Performance*

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The current study aimed to examine the effects of topic familiarity and language proficiency on linguistic complexity, accuracy, and fluency of argumentative essays in an EFL context. This study involved 64 college freshmen, who were divided into two groups according to a TOEIC score of 700, which corresponds to the B1 level on the CEFR scale: a high group (n = 31) and an intermediate group (n = 33). Participants were asked to write two argumentative essays on different topics, controlling for order effects through counterbalancing: one familiar (driving) and the other unfamiliar (smoking). They also completed a questionnaire that included background information and a topic familiarity rating on a 10-point Likert scale. The participants' writing samples were analyzed in terms of lexical complexity, syntactic complexity, accuracy, and fluency. The results indicated that, in terms of topic familiarity, EFL learners tended to produce texts with lower levels of lexical and syntactic complexity, as well as reduced accuracy, when writing about unfamiliar topics. With regard to language proficiency, advanced learners demonstrated a broader vocabulary range, employed longer and more complex sentence structures, and produced more accurate and extensive texts compared to their intermediate-level peers. In-depth analysis and pedagogical implications are discussed.

[topic familiarity/complexity/accuracy/fluency]

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I. INTRODUCTION

Those living in today's globalized world have already stepped into a realm beyond time and space, thanks to cutting-edge technology (Hubert, 2013). High-tech advancements have transformed many aspects of their daily lives, including how to communicate. Increasingly, they interact through digital technologies such as Internet platforms, social media, and mobile devices. As a result, writing skills have become more essential than ever in the digital era, whether for sending e-mails, texting messages, or even searching for information online. That is why strong writing ability is undoubtedly a crucial qualification for global citizens today.

The growing recognition of the importance of English learners' writing proficiency has led to extensive research on effective ways to enhance L2 learners' writing skills in the modern era. As a result, many studies have emphasized how crucial English writing ability is for their successful communication (Cumming et al., 2016; Graham et al., 2017; Kim, 2020). In EFL contexts, in particular, various factors influence learners' writing performance, including their language proficiency level, cultural backgrounds, affective factors, and methodological aspects such as topic familiarity in writing. Among these factors, researchers have recently shown particular interest in the role of topic familiarity in writing (Combs, 2008; He & Shi, 2012; Indah, 2017; Kessler et al., 2021; Lee & Anderson, 2007; Salimi & Fatollahnejad, 2012; Shi et al., 2020; Yang & Kim, 2020). It has been reported that topic familiarity, referring to the level of knowledge and understanding an individual has about a particular subject, has a strong relationship with the writing performance and critical thinking (Kim, 2020). However, findings on this issue have not been consistent. For example, Indah (2017) argued that topic familiarity significantly contributes to writing performance, whereas Combs (2008) and Salimi and Fatollahnejad (2012) found no significant effect of the topical knowledge on the written products of L2 learners.

Even so, it is widely believed that the level of topic familiarity significantly influences the linguistic aspects of ESL/EFL learners' writing performance (He & Shi, 2012; Housen, Kuiken, & Vedder, 2012). When they are familiar with the topic they are required to write about, their writing tends to be more coherent and cohesive. They are able to express their ideas effortlessly, use appropriate vocabulary, and organize their thoughts systematically (Johnson et al., 2016; Nation, 2001). As a result, the quality of their writing is likely to improve, particularly in terms of complexity, accuracy, and fluency (CAF), a widely used framework for assessing L2 learners' linguistic proficiency across different dimensions (Housen et al., 2012). Conversely, when learners are asked to write about an unfamiliar topic that requires new content knowledge, they may face greater challenges, increasing their cognitive load and potentially leading to weaker linguistic performance (Kessler et al.,

2021; Shi et al., 2020; Skehan, 1998, 2016; Yang et al., 2015). Consequently, concerns have been raised regarding the fairness and validity of using certain topics to assess writing proficiency based on CAF measures, particularly when considering the role of learners' topical knowledge.

Meanwhile, the concept of CAF has been a critical variable in the field of L2 writing research. It has been used as a set of descriptors for assessing learners' performance and as indicators of their writing proficiency (Housen & Kuiken, 2009). As a criterion for evaluating L2 learners' writing outcomes, CAF remains at the center of scholarly attention (Crossley & McNamara, 2012; Friginal et al., 2014; Jarvis et al., 2003: Johnson, 2017; Yu, 2010). In recent years, while many researchers have explored the effects of different writing topics on text quality and CAF, primarily in ESL contexts, researchers in EFL settings remains limited and often yields inconclusive results. Specifically, some studies have suggested that topic familiarity has minimal or no effect on learners' writing performance, depending on their level of language proficiency (Kessler et al., 2021; Lee & Anderson, 2007). In contrast, other studies have found significant effects of topic familiarity on both text quality and on CAF measures (Kim, 2020; Yoon, 2017).

Therefore, understanding the effects of topic familiarity on the linguistic aspects of ESL/EFL learners' writing performance can provide valuable insights into how they approach writing tasks based on their familiarity with the topic. It can also help educators tailor their teaching methods to better meet learners' needs in writing according to their language proficiency. Accordingly, this study aims to examine the impact of topic familiarity on the linguistic aspects of EFL learners' writing performance, while also considering its potential implications for language instruction based on their language proficiency levels. The research questions addressed in this study are as follows:

1. How does topic familiarity affect lexical and syntactic complexity, accuracy, and fluency of EFL learners' writing performance?
2. How do these effects differ depending upon their language proficiency?

II. LITERATURE REVIEW

1. Topic Familiarity in L2 Writing

Researchers and practitioners in the field of L2 teaching and learning share a common goal: to play a positive role in helping L2 learners become proficient language users. In pursuit of this goal, they have continuously strived to develop more effective teaching methodologies over the past decades. One influential perspective emerged in the late 20th

century with the rise of constructivism, which emphasized that learners, who construct and represent their own reality (Brown, 2014), should be placed at the center of the learning process, while the traditional role of teachers should be minimized (Ur, 2012). In line with this perspective, the concept of learner-centered instruction was introduced in L2 teaching and learning. This approach underscores the importance of deeply understanding learners' needs, interests, and cultural backgrounds as a prerequisite for effective language instruction. For instance, teachers, acting as facilitators, provide learners with content that is familiar and relevant to them. Learners, in turn, are more likely to actively engage with this content when producing language, such as in speaking and writing. Some researchers even argue that without prior knowledge, particularly in the form of cultural or topical familiarity, it becomes difficult to accurately assess learners' productive language abilities (Yang & Kim, 2020). Therefore, it is assumed that learners' L2 proficiency can be assessed more fairly when they are given familiar topics with which they are already familiar and possess considerable background knowledge.

As such, topic familiarity (TF) plays a pivotal role in the writing performance of English language learners (Combs, 2008; He & Shi, 2012; Indah, 2017; Salimi & Fatollahnejad, 2012; Way et al., 2000; Yang & Kim, 2018). In the context of second language acquisition, TF refers to the extent to which learners are familiar with the subject matter they are required to write about. The concept is grounded in a broader cognitive framework (Robinson, 2001b; Skehan, 1998), which suggests that familiarity with a topic can reduce learners' cognitive load, enabling them to allocate more cognitive resources to language production rather than content generation.

In L2 writing, learners often struggle to generate ideas and organize content when confronted with unfamiliar topics, which can negatively impact their overall writing performance (Chen & Truscott, 2010). Conversely, when writing about familiar topics, learners tend to demonstrate greater control over linguistic structures, as the cognitive demands of content generation are reduced (Ellis & Yuan, 2004). This suggests that TF is closely linked to the quality of written production, influencing both the complexity and accuracy of language use.

The relationship between TF and writing performance is further supported by schema theory, which posits that individuals rely on pre-existing knowledge structures, or schemas, to process and produce information (Carrell, 1987). In the context of L2 writing, familiar topics activate relevant schemas, facilitating the retrieval of appropriate vocabulary and syntactic structures, and ultimately leading to more coherent and cohesive texts. These findings carry important pedagogical implications: selecting familiar topics for learners can enhance writing performance, reduce anxiety, and foster a more positive language learning experience.

2. Complexity, Accuracy, and Fluency

Since the 1990s, the three constructs of complexity, accuracy, and fluency (CAF) have been widely used as indicators of L2 proficiency in both spoken and written assessments (Housen & Kuiken, 2009; Pallotti, 2009). These constructs have also been employed extensively by researchers and practitioners to describe L2 learners' task performance (Bulté & Housen, 2014; Pallotti, 2009). The concepts of fluency and accuracy were first distinguished by Brumfit (1984), and later complexity was added as a third dimension. Eventually, Skehan (1989) introduced the CAF triad as a model of L2 proficiency, a framework that remains widely used for evaluating task performance and measuring linguistic proficiency. According to Ellis (2003), complexity refers to "[t]he extent to which the language produced in performing a task is elaborate and varied" (p. 340). Accuracy is defined as "the degree to which language production conforms to the norms of the target language" (Cho, 2021, p. 508), while fluency refers to "the ability to process the L2 with native-like rapidity" (Lennon, 1990, p. 390). Although these dimensions are interrelated, they capture distinct aspects of linguistic competence.

In the context of L2 writing, complexity, also referred to as linguistic complexity (Williams & Evans 1998; Housen et al., 2012; DeKeyser, 2008), generally concerns the size, elaborateness, richness, and diversity of a learner's linguistic output (Housen & Kuiken, 2009). It encompasses both syntactic complexity, which involves the use of varied and sophisticated sentence structures, and lexical complexity, which pertains to the range and sophistication of vocabulary (Bulté & Housen, 2014; Frear & Bitcherner, 2015; Ortega, 2003). Both aspects are considered key indicators of writing task performance.

Accuracy, which denotes the degree to which language use conforms to the norms of the target language, is often viewed as the most consistent and transparent component of the CAF triad. A high level of accuracy reflects a learner's ability to produce error-free language, which is essential for clear and effective communication (Polio, 1997).

Fluency, the final component, relates to the smoothness and speed of language production. It is commonly measured by the quantity of language (e.g., number of words or sentences) produced within a given time frame. Fluency reflects a learner's ability to express ideas fluidly and without undue hesitation, which is crucial for maintaining the natural flow of writing (Lennon, 1990).

The CAF triad has been extensively used in L2 writing research as a multidimensional framework for assessing L2 writing proficiency (Bulté & Housen, 2014). However, these dimensions do not always develop simultaneously. Instructional focus and task demands often lead to trade-offs among them. For instance, emphasizing syntactic complexity may compromise accuracy, as learners push their linguistic boundaries to use more complex forms (Skehan, 2009). Therefore, understanding the interplay among CAF is essential for

both accurate evaluation and the design of effective instructional interventions aimed at improving L2 writing performance.

3. Previous Studies on TF and CAF

As mentioned earlier, researchers have extensively examined the role of topic familiarity (TF) in shaping learners' productive language use, particularly in L2 writing. A substantial body of research has focused on the effects of TF on writing quality and the three dimensions of complexity, accuracy, and fluency (CAF). The interaction between TF and the CAF components has been widely studied (He & Shi, 2012; Shi, et al., 2020; Yang et al., 2015; Yoon, 2017; Yoon & Polio, 2017), underlining its importance in both theoretical and pedagogical contexts. Collectively, these studies indicate consistently that TF significantly affects L2 learners' writing performance across the CAF dimensions.

For instance, Chen and Truscott (2010) investigated the impact of TF on Chinese EFL learners' writing performance and found that learners produced more complex and accurate texts when writing about familiar topics. They also observed that fluency improved, as learners could generate ideas more quickly and smoothly, facilitating the writing process. Similarly, Tavakoli and Skehan (2005) explored the relationship between TF and CAF in task-based language teaching. Their findings suggested that tasks involving familiar topics promoted greater complexity and fluency, though improvements in accuracy were not always evident. The study emphasized the importance of task design and the role of learners' prior knowledge in enhancing performance in L2 writing instruction. In line with these findings, Kormos (2011) also found that while TF generally enhanced complexity and fluency, its effect on accuracy varied depending on learners' proficiency levels and the demands of the writing task. These results point to the need for a nuanced understanding of how TF influences the various aspects of writing performance.

In contrast, Kessler et al. (2021) highlighted the importance of careful topic selection in both instructional and assessment contexts. Their study found that although learners' level of TF regarding two topics (driving and smoking) did not significantly impact overall writing performance, TF positively influenced lexical and syntactic complexity. However, it had no effect on accuracy, aligning with Skehan's Trade-Off Hypothesis. Additionally, they reported no significant influence of TF on writing fluency.

Despite many studies supporting the positive contribution of TF to writing performance, inconsistent findings have also emerged. For instance, Salimi and Fatollahnejad (2012) found that neither TF nor strategic planning has a significant effect on intermediate-level EFL learners' performance across the CAF dimensions. This result echoed the findings of Combs (2008), who similarly concluded that TF had no significant effect on learners' acquisition of linguistic form.

Collectively, these studies contribute to a growing body of evidence highlighting the significant role of topic familiarity in L2 writing. They suggest that familiarity with a topic not only facilitates content generation but also positively affects the linguistic quality of writing. This has important implications for both language assessment and instruction, as incorporating familiar topics into writing tasks may lead to more accurate evaluation of learners' true linguistic abilities and create a more supportive context for language development.

III. RESEARCH DESIGN

1. Participants

A total of 64 college freshmen participated in this study. All participants were students at B college, located in the southwestern region of South Korea, and were enrolled in the required course *College English* during the fall semester of 2022. The participants came from four first-year classes, consisting of 20, 19, 12, and 23 students, respectively, for a total of 58 males (90.6%) and 6 females (9.4%).

For the purpose of the study, the participants were divided into two groups based on their TOEIC scores: a high group (n = 31; 48.4%) and an intermediate group (n = 33; 51.6%). Students who scored above 700 on the TOEIC were placed in the high group, while those who scored below 700 were placed in the intermediate group. The overall average TOEIC score was 685.16 (SD = 133.40), with the high group averaging 807.24 (SD = 92.46) and the intermediate group averaging 584.00 (SD = 52.76). The TOEIC score and the CEFR level may not correspond exactly, but a TOEIC score of 700 can roughly be considered equivalent to the B1 level on the CEFR scale. Generally, this level indicates the ability to use and understand basic English, and to communicate with confidence in simple and familiar situations.

One of the researchers, who also served as an English instructor, was responsible for teaching the four classes and conducted the experiment as part of the course. *College English* was a two-hour weekly class designed to enhance students' literacy skills. Both a reading textbook and a TOEIC speaking textbook were used throughout the course.

2. Instruments

1) Writing Tasks

Two argumentative essay topics were prepared for the participants' writing tasks:

"Cellphone use should/should not be banned while driving" and "E-cigarettes are/are not safer than regular cigarettes." For the writing tasks, a designated online site was used to upload a writing form, which all participants downloaded and used to write their essays on their laptop computers. Each participant was given 30 minutes to complete each essay.

The writing tasks were conducted over two consecutive weeks, with each participant completing one writing task per week, for a total of two essays. To counterbalance the order effects, half of the participants wrote about one topic first, while the other half wrote about the other topic first. Additionally, the use of dictionaries, reference materials, or any external devices was not permitted during the tasks. Participants were instructed to write their essays under test conditions and were required to submit their completed essays to their instructor via email immediately after finishing. The collected data were then analyzed for research purposes.

2) Questionnaire

Before writing the two argumentative essays, participants were asked to complete a questionnaire for each topic. The questionnaire included background information such as name, gender, and TOEIC score, as well as a topic familiarity rating on a 10-point Likert scale, ranging from 1 (totally unfamiliar) to 10 (entirely familiar). In this study, topic familiarity was measured using a continuous scale based on Likert-scale ratings, following the approach of Kessler et al., (2021), rather than a dichotomous scale (familiar/unfamiliar) as used in He and Shi (2012). This approach allowed for a more nuanced assessment of individual differences in familiarity. The two topics—driving and smoking—showed a significant difference in participants' familiarity ratings ($t = 10.162$, $p < .001$, Cohen's $d = 1.81$, indicating a very large effect size). The mean scores for each topic were as follows: driving, 6.22 ($SD = 3.32$); and smoking, 2.86 ($SD = 2.90$).

3. Measures and Data Analyses

To address the two research questions posed in the Introduction, the participants' writing samples were analyzed in terms of lexical complexity, syntactic complexity, accuracy, and fluency. First, lexical complexity was assessed to evaluate the sophistication and variation of words used in the essays (Lu, 2012). It was measured using four indicators: Academic Word Ratio (AWR), Average Word Length (AWL), Word Frequency Index (WFI), and Measure of Textual Lexical Diversity (MTLD) (Kessler et al., 2021). A summary of these measures is presented in Table 1.

TABLE 1
Description of Lexical Complexity Measures

Measures	Description
Academic Word Ratio (AWR)	the percentage of academic words to total number of words (He & Shi, 2012)
Average Word Length (AWL)	a measure of complexity concerning one's breadth and depth of lexical knowledge (Jarvis et al., 2003)
Word Frequency Index (WFI)	a measure of using frequent words to predict L2 proficiency (Crossley et al., 2013)
Measure of Textual, Lexical Diversity (MTLD)	a measure of lexical diversity unaffected by text length (McCarthy & Jarvis, 2010)

Next, syntactic complexity was measured to assess the degree of variation and sophistication in the syntactic structures used in the essays (Lu, 2017). For this purpose, the L2 Syntactic Complexity Analyzer (L2SCA) was employed (Lu, 2010), which includes 14 measures categorized into five dimensions of syntactic complexity (Ortega, 2003).

- Length of production unit: MLC, MLS, MLT, and CT/T
- Amount of subordination: C/T, DC/C, and DC/T
- Amount of coordination: T/S, CP/C, and CP/T
- Phrasal sophistication: CN/C, CN/T, and VP/T
- Overall sentence complexity: C/S

(See Table 4 for the full names of the acronyms.)

Following Kessler et al. (2021), who found that 12 of the original 14 measures (excluding CT/T and C/S) reliably captured various aspects of L2 proficiency (Lu, 2017), the present study used these 12 measures for analysis.

Accuracy was calculated as the percentage of error-free T-units relative to the total number of T-units per essay (He & Shi, 2012). One of the authors manually coded the essays based on these criteria because the calculation of T-units is relatively straightforward. Fluency was measured by counting the total number of words produced in each essay.

For statistical analyses, two-way mixed ANOVAs were conducted based on descriptive statistics to examine the effects of topic familiarity and language proficiency on lexical complexity, syntactic complexity, accuracy, and fluency. Additionally, effect sizes (partial eta squared) were calculated and interpreted using Cohen (1969)'s benchmark: small (η^2 = .0099), medium (η^2 = .0588), and large (η^2 = .1379).

IV. RESULTS

1. Effects of Topic Familiarity on Lexical Complexity

Tables 2 and 3 present the results of the descriptive statistics and two-way mixed ANOVAs conducted to examine the effects of topic familiarity on lexical complexity, based on L2 writers' language proficiency. The analysis revealed significant main effects of both topic and language proficiency on lexical complexity, while no interaction effect was found. Regarding the topic variable, significant mean differences were observed between the two topics. Participants used less academic vocabulary (AWR) and lower word frequency (WFI), and demonstrated lower lexical diversity (MTLD) when writing about the less familiar topic of smoking compared to driving, with large effect sizes. They also exhibited greater lexical sophistication by using longer words (AWL) when writing about smoking, with a large effect size.

With respect to the language proficiency, a significant difference was found in the three measures of AWL, WFI, and MTLD, with high-proficiency learners using a longer, more varied vocabulary frequently than their intermediate-level peers when writing argumentative essays, with a medium effect size.

TABLE 2
Descriptive Statistics for Lexical Complexity on Topic in Language Proficiency

Lexical Complexity Measure	Proficiency levels (*N*)	Driving *M* (*SD*)	Smoking *M* (*SD*)
Academic Word Ratio (AWR)	High (31)	3.01 (1.99)	2.09 (1.78)
	Intermediate (33)	2.68 (1.52)	1.53 (1.39)
Average Word Length (AWL)	High (31)	4.74 (.24)	5.27 (.48)
	Intermediate (33)	4.62 (.32)	5.07 (.36)
Word Frequency Index (WFI)	High (31)	2.92 (.07)	2.90 (.10)
	Intermediate (33)	2.91 (.08)	2.88 (.10)
Measure of Textual, Lexical Diversity (MTLD)	High (31)	66.72 (17.32)	48.61 (19.07)
	Intermediate (33)	57.59 (15.56)	38.75 (10.71)

TABLE 3
Two-Way Mixed ANOVAs for Lexical Complexity by Topic and Language Proficiency

Measure	Topic		Language proficiency		Interaction	
	p	η_p^2	*p*	η_p^2	*p*	η_p^2
AWR	< .001**	.205	.181	.029	.655	.003
AWL	< .001**	.551	.028*	.075	.494	.008
WFI	.008**	.109	.045*	.063	.966	< .001
MTLD	< .001**	.483	.004**	.128	.867	< .001

*p < .05, **p < .01

2. Effects of Topic Familiarity on Syntactic Complexity

Tables 4 and 5 present the descriptive statistics and two-way mixed ANOVA results examining the effects of topic familiarity and language proficiency on syntactic complexity. Regarding the topic variable, significant differences were observed in two aspects of syntactic complexity, such as length of production unit (MLC and MLT), with medium to large effect sizes, and degree of phrasal sophistication (CN/C, CN/T, and VP/T), with large effect sizes. Participants achieved higher scores in MLC, MLT, and VP/T when writing on the driving topic, while they showed higher usage of phrasal constructions (CN/C and CN/T) when writing on the smoking topic.

In terms of language proficiency, significant differences between the two proficiency groups were found in amount of subordination (DC/C), and degree of phrasal sophistication (CN/C and CN/T), all with medium effect sizes. High-proficiency learners produced sentences that were more syntactically complex at both the clause and sentence levels compared to those of intermediate-level learners.

TABLE 4
Descriptive Statistics for Syntactic Complexity on Topic in Language Proficiency

Syntactic Complexity Measure	Proficiency levels (*N*)	Driving *M* (*SD*)	Smoking *M* (*SD*)
Length of production unit			
Mean length of clause (MLC)	High (31)	8.22 (1.32)	7.17 (.93)
	Intermediate (33)	7.82 (1.45)	6.71 (.83)
Mean length of sentence (MLS)	High (31)	14.34 (2.87)	13.66(3.18)
	Intermediate (33)	14.88 (3.63)	11.77 (3.16)
Mean length of T-unit (MLT)	High (31)	13.61 (2.74)	12.09 (2.37)
	Intermediate (33)	14.28 (3.74)	10.81 (2.24)
Amount of subordination			
Clauses per T-unit (C/T)	High (31)	1.67 (.29)	1.69 (.29)
	Intermediate (33)	1.84 (1.64)	1.63 (.37)
Dependent clauses per clauses (DC/C)	High (31)	.40 (.09)	.40 (.08)
	Intermediate (33)	.36 (.16)	.33 (.13)
Dependent clauses per T-unit (DC/T)	High (31)	.69 (.26)	.74 (.28)
	Intermediate (33)	.82 (1.37)	.57 (.37)
Amount of coordination			
T-units per sentence (T/S)	High (31)	1.06 (.08)	1.13 (.12)
	Intermediate (33)	1.06 (.07)	1.06 (.22)
Coordinate phrases per clause (CP/C)	High (31)	.11 (.08)	.12 (.12)
	Intermediate (33)	.11 (.13)	.09 (.09)
Coordinate phrases per T-unit (CP/T)	High (31)	.18 (.13)	.19 (.19)
	Intermediate (33)	.19 (.22)	.17 (.19)

Degree of phrasal sophistication			
Complex nominals per clause (CN/C)	High (31)	.76 (.26)	.98 (.22)
	Intermediate (33)	.65 (.23)	.87 (.24)
Complex nominals per T-unit (CN/T)	High (31)	1.25 (.47)	1.65 (.44)
	Intermediate (33)	1.20 (.22)	1.39 (.41)
Verb phrases per T-unit (VP/T)	High (31)	2.59 (.40)	1.98 (.51)
	Intermediate (33)	2.93 (.87)	1.82 (.39)

TABLE 5
Two-Way Mixed ANOVAs for Syntactic Complexity by Topic and Language Proficiency

Measure	Topic		Language proficiency		Interaction	
	p	η_p^2	*p*	η_p^2	*p*	η_p^2
Length of production unit						
MLC	< .001**	.381	.070	.052	.861	.001
MLS	.113	.040	.639	.004	.306	.017
MLT	.038*	.068	.827	.001	.407	.011
Amount of subordination						
C/T	.523	.007	.768	.001	.425	.010
DC/C	.476	.008	.018*	.088	.365	.013
DC/T	.428	.010	.923	< .001	.243	.022
Amount of coordination						
T/S	.122	.038	.166	.031	.152	.033
CP/C	.607	.004	.434	.010	.443	.010
CP/T	.764	.001	.746	.002	.589	.005
Degree of phrasal sophistication						
CN/C	< .001**	.325	.015*	.092	.985	< .001
CN/T	< .001**	.333	.006**	.114	.850	.001
VP/T	.001**	.152	.745	.002	.343	.015

*p < .05, **p < .01

3. Effects of Topic Familiarity on Accuracy and Fluency

Tables 6 and 7 present the descriptive statistics and two-way ANOVA results for the accuracy and fluency measures. Regarding accuracy, significant main effects were found for both topic familiarity and language proficiency. Participants wrote more accurately on the familiar topic of driving than on the less familiar topic of smoking, with a large effect size. Additionally, high-level learners produced more accurate writing than their intermediate-level peers, with a medium effect size.

In terms of fluency, a significant difference emerged across different writing topics and the participants' language proficiency levels. The learners who wrote on the driving topic produced a longer text. In addition, high-level learners wrote more fluently, producing longer texts than intermediate learners.

TABLE 6
Descriptive Statistics for Accuracy and Fluency on Topic by Language Proficiency

Measure	Proficiency levels (*N*)	Driving *M* (*SD*)	Smoking *M* (*SD*)
Accuracy (error-free T-unit ratio)	High (31)	69.77 (15.48)	54.98 (19.85)
	Intermediate (33)	59.31 (21.35)	41.92 (18.54)
Fluency (total number of words)	High (31)	186.03 (68.43)	169.42 (59.84)
	Intermediate (33)	103.79 (30.27)	96.61 (41.36)

TABLE 7
Two-Way Mixed ANOVAs for Accuracy and Fluency by Topic and Language Proficiency

Measure	Topic		Language proficiency		Interaction	
	p	η_p^2	*p*	η_p^2	*p*	η_p^2
Accuracy	< .001**	.395	.005**	.122	.610	.004
Fluency	.042*	.065	< .001**	.404	.533	.006

** $p < .01$

V. DISCUSSION

This study examined the effects of topic familiarity and language proficiency on the complexity (both lexical and syntactic), accuracy, and fluency of EFL learners' written work.

In terms of lexical complexity, topic familiarity was found to influence vocabulary use in writing. Specifically, less familiar and more abstract topics hindered EFL writers from using a diverse range of words (e.g., MTLD) and complex, academic vocabulary (e.g., AWR) (He & Shi, 2012; Yu, 2010). This finding aligns with Yang and Kim (2018) who reported that unfamiliar topics were associated with lower lexical diversity and sophistication in essays. Interestingly, however, participants in this study used longer (AWL) and less frequent (WFI) words when writing about the less familiar topic of smoking. This indicates that they may have relied on longer, topic-specific technical words, such as *cigarettes, consumers, diseases, electronic, explode, ingredients, nicotine, overdose,* and *poisonous* (Kessler et al., 2021; Yoon, 2017).

Regarding syntactic complexity, topic familiarity significantly affected structural features of the texts. Essays on the less familiar topic contained shorter production units (e.g., MLC, MLT) and less sophisticated verb phrase constructions (e.g., VP/T). This suggests that EFL writers tend to produce shorter and less syntactically complex texts at both global and clause levels (MLT and MLC respectively) when writing about unfamiliar topics. However, the increased use of complex noun phrases at the clause and sentence levels (e.g., CN/C, CN/T) when writing about less familiar topics appears to be associated with greater lexical complexity, likely due to the inclusion of more topic-specific technical

jargon. However, this finding contradicts with Yang and Kim (2018), who reported greater global syntactic complexity for essays on unfamiliar topics. Moreover, while Kessler et al. (2021) highlighted the role of clause-level sophistication (C/T and DC/T) in relation to topic familiarity (Yoon, 2017), the present study found no such effect.

In terms of accuracy, measured by the rate of error-free T-units, participants produced less accurate writing when discussing the less familiar topic. This finding contradicts with prior studies (He & Shi, 2012; Kessler et al., 2021; Yang & Kim, 2018), which argued that more familiar topics may actually reduce accuracy, as learners focus on complexity over correctness.

Fluency, as measured by the total number of words produced (Kessler et al., 2021; Yang & Kim, 2018), was significantly affected by topic familiarity. In contrast to previous research reporting no significant effects of topic familiarity and language proficiency (Kessler et al., 2021), the present study found that the higher proficiency EFL learners produces longer essays when writing on more familiar topics.

Overall, participants produced less lexically and syntactically complex, as well as less accurate, writing when addressing the less familiar topic of smoking. This is likely due to the increased cognitive load imposed by the unfamiliar content (Skehan, 2016), which may lead learners to simplify their language. Notably, this simplification did not result in improved accuracy, suggesting that topic familiarity should be considered when applying Skehan's (1998, 2016) Trade-Off Hypothesis to L2 writing performance.

In terms of language proficiency, the three lexical measures (AWL, WFI, and MTLD) significantly distinguished between proficiency levels. Learners with high proficiency levels used more academically oriented and less frequent vocabulary, exhibiting greater lexical diversity. This suggests that more proficiency learners are better equipped to draw on a broader and deeper range of vocabulary to articulate their ideas and arguments (Kessler et al., 2021).

With regard to syntactic complexity, significant differences were observed between the two language proficiency levels in measures such as amount of subordination (DC/C), and degree of phrasal sophistication (CN/C and CN/T), all with medium effect sizes. High-level learners tended to produce more structurally complex texts at the clause and sentence levels compared to their intermediate-level counterparts.

Regarding accuracy and fluency, high-proficiency learners consistently outperformed their intermediate-level peers. These findings reinforce the importance of language proficiency in shaping writing performance, particularly in terms of accuracy and fluency in EFL learners' writing. Thus, these two dimensions are essential considerations in both the instruction and assessing of EFL writing.

VI. CONCLUSION

The present study examined the effects of topic familiarity and language proficiency on the linguistic complexity, accuracy, and fluence (CAF) of argumentative essays in an EFL context.

With regard to the first research question concerning topic familiarity, the findings indicate that EFL learners tend to produce texts with lower lexical and syntactic complexity, as well as reduced accuracy, when writing about unfamiliar topics (Skehan, 1998; Skehan & Foster, 2001). This may be attributed to the increased cognitive load imposed by unfamiliar topics, which can negatively affect the quality of written output (Robinson, 2001a).

As for the second research question regarding language proficiency, advanced learners demonstrated a broader range of vocabulary, constructed more complex clauses and sentences, and produced more accurate and extensive texts than their intermediate-level peers. These findings suggest that higher language proficiency enables learners to utilize richer vocabulary and more sophisticated sentence structures while maintaining greater accuracy, thereby enhancing their ability to express ideas effectively through writing.

Based on the findings, some pedagogical implications can be drawn for writing instruction in EFL contexts. First, given that topic familiarity significantly affects linguistic features in writing, it is important for teachers to provide students with opportunities to build background knowledge across a variety of topics. Incorporating both familiar and unfamiliar topics into writing tasks can help students expand their content knowledge and linguistic resources, thereby improving their overall writing proficiency across different subject areas.

Second, acknowledging the influence of language proficiency on CAF in writing, teachers should tailor their writing instruction to address the diverse needs of learners at different proficiency levels. Providing level-appropriate support and targeted feedback can be instrumental in developing students' writing skills more effectively (Lee & Yoon, 2020, 2022).

Although the current study made substantial efforts to address the two research questions, it is not without limitations. One potential limitation lied in the influence of individual learner factors, such as personal backgrounds, socio-cultural or educational context, and varying exposure to English learning situations. Further research should consider these variables to gain a more nuanced understanding of how such factors impact EFL writing performance. Another limitation concerns the restrict range of genres and topics examined. This study focused exclusively on argumentative essays related to two topics: driving (familiar) and smoking (unfamiliar). Exploring a wider variety of genres and topics could offer deeper insights into how topic familiarity affects writing across different contexts and discourse types.

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Examples: English
Applicable language: English
Applicable Level: Tertiary

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