How Local Accuracy Influences Global Accuracy in the Context of Argumentative Writings Produced by Japanese University Students

How Local Accuracy Influences Global Accuracy in the Context of Argumentative Writings Produced by Japanese University Students

Kazumi Tsutada

Abstract

　　In Japan, the focus of English education in both junior high and high schools has generally been grammar instruction. It seems meaningful, given the significant linguistic distance between English and Japanese. However, it is also important to make sure that grammatical knowledge is transferred into practical English production effectively. Nonetheless, there have been few experimental studies on the relationship between grammatical knowledge and production. This indicates that it is highly relevant to examine how grammatical knowledge affects English production at universities in Japan. This study used a quantitative analysis, structural equation modeling (SEM), to investigate the extent of influence of local accuracy (grammatical accuracy in a sentence) on global accuracy (comprehensibility of a sentence and of an essay as a whole). Items for analysis included 155 argumentative essays written on one of two recent social topics. Japanese English professionals evaluated the essays for local accuracy while native English teachers evaluated them for global accuracy. The result indicated a low relationship between local accuracy and global accuracy. Consequently, this study classified the essays into two groups; one with low accuracy and high global accuracy, and the other with high local accuracy and low global accuracy. The causes for the phenomenon were then explored, and practical strategies for the future were discussed including those on evaluation criteria and feedback.

　　Keywords: Argumentative writing, local accuracy, global accuracy, structural equation modeling.

1．Introduction

　　While many arguments have been made about the importance of grammar in communication, the pendulum has remained swinging on this issue. Although very few experimental studies have investigated the actual efficacy of grammar during communication, it is typically prioritized in the context of English education in Japan. Still, many scholars question whether grammatical knowledge is successfully transferred into English production. Amid the continually increasing demand for written communication, this study focused on writing to quantitively analyze the relationship between grammar and written content,

specifically regarding the terms "local accuracy" and "global accuracy." The results should provide useful data for those reconsidering the importance of connecting local accuracy to global accuracy in the learning context, especially in view of the strong societal demand for writing skills.

2. Background

2.1 Grammar and writing

Many scholars have argued about the general effects of grammar on writing performance. For instance, Rivers and Temperley (1978) argued that adequate grammatical accuracy is essential for rhetorical effectiveness in writing, while Knapp and Watkins (2005) claimed that grammar infuses writing as a "force of expression." More recently, Hinkel (2013) contended that the identification of appropriate grammatical structures has become a focused objective for helping learners improve their writing quality. In a more specific context, Celce-Murcia (1991) emphasized the influence of grammar on academic writing, with particular regard to the needs of university students who aspire to become successful English users. Purpura (2004) also asserted that grammatical forms play essential roles when communicating intended meanings, thus treating "grammatical knowledge and pragmatic knowledge as separate components of language ability, … in order to communicate certain meanings, these two components are inextricably related" (p. 60).

The degree to which grammar is important for writing varies based on the linguistic difference between the learner's native language and the target language. Elder and Davies (1998) produced a linguistic distance scale ranking of 5 for English and Japanese, which is the furthest such distance, particularly in regard to syntactics. As such, grammatical and syntactical knowledge are crucial components for Japanese English learners who are focusing on writing proficiency. From this perspective, grammar has an undeniable influence on writing.

Meanwhile, many studies have found a negative relationship between grammar and production. For example, Schwartz (1986) focused on linguistic knowledge and competence, thus finding that linguistic knowledge played a small and limited role in language production. McLaughlin (1990) also contended that linguistic knowledge is not integrated into the contents of communication, thus implying that its acquisition is nearly useless in that respect. Lasagabaster and Doiz (2018) investigated 20 essays to search for correlations between

grammatical errors and written content, but found none between the number of grammatical errors and content. They thus contended that linguistic errors do not influence content evaluation. The above studies support the view that linguistic knowledge does not always lead to effective production.

As mentioned in the introduction, the pendulum is still swinging between opposing arguments about the significance of grammar in production. In fact, the role of grammar in language production has yet to be fully analyzed or understood. For instance, Bachman and Palmer (1996) claimed that researchers were still uncertain about the influence of grammatical knowledge on other aspects of language production, while Andrews (2010) more recently argued that there is inadequate understanding how grammar affects writing quality.

2.2 Local accuracy and global accuracy

This study explored the relationship between grammar and writing by investigating how grammatical accuracy affected content-based accuracy, both of which were evaluated based on the extent of detected errors. Writing errors are largely categorized into two main types, including the local and global. Harris and Silva (1993) contended that global errors "interfere with the intended reader's understanding of the text" (p. 526). On the other hand, local errors relate to form, and do not generally affect the contents of a given text directly. According to these definitions, this study used the terms "local accuracy" and "global accuracy," which were assessed inversely to local and global errors, respectively. Specifically, "local accuracy" was defined as sentential grammatical accuracy with regard to the correct usage of subject-verb structures, conjunctions, and post-modifiers, while "global accuracy" was used to represent the content or communication/comprehensiveness of an individual sentence and of an essay as a whole.

As described in the previous section, the relationship between grammar and writing is currently unclear. In fact, very few quantitative analyses have been conducted to investigate the issue. This quantitative analysis therefore attached pedagogical value to its investigation of how local accuracy affected global accuracy.

3. Method

3.1 Research design

This study's principal objective was to explore the effect of syntactical local accuracy on

global accuracy (or comprehensibility) as evaluated by native English speakers (NS). More specifically, after implementing a 10-week syntactical training program using English news articles, this study issued English argumentative writing assignments about contemporary global issues to Japanese university students. We then examined each essay to determine how local accuracy (which was generally affected by syntactical knowledge) affected the global accuracy evaluations conducted by NS. Local accuracy was represented by three factors, including subject-verb structures, conjunctions, and post-modifiers, while global accuracy was evaluated based on two aspects, including sentence-level comprehensibility and supra-sentential cohesion for each essay as a whole. The results of the respective evaluation scores were then analyzed via structural equation modeling (SEM) in order to measure the relationship between local accuracy and global accuracy.

3.2 Procedures

This study collected a total of 155 writing samples from undergraduate EFL students in Japan, whose English proficiency ranged from intermediate to upper-intermediate. The students were recruited from four classes designed to enhance comprehensive English skills, with class curricula designed based on the instructor's judgment. Students were required to complete presentations on social issues, read news articles, and write.

Prior to writing, participants were told they would be tested on their English writing abilities, specifically regarding the integration of grammatical knowledge and ability to organize arguments about a given topic. In order for participants to more explicitly understand these expectations, information was provided on the evaluation rubrics (Appendix 1), thus showing how and by whom their essays would be assessed. All such writing assignments also applied to their official course grades. This was done so that participants would make strong writing efforts, as school records are typically of high concern. The rubrics were comprised of two components, the first of which evaluated specific sentential grammatical knowledge and usages for subject-verb structures, conjunctions, and post-modifiers (local accuracy), while the second assesses sentential and supra-sentential global accuracy. Global accuracy was scored by NS English professionals, while matters of sentential local grammatical accuracy were assessed by both a Japanese English teaching professional and the current author.

Writing tasks were completed with computers and full Internet access. As the tasks were impromptu and timed, topics were announced immediately prior to their assignment.

Participants were first instructed to gather information on their topics for 30 minutes (including outlining), and then asked to write for the remaining 30 minutes. This study also allowed free access to any available dictionary while writing, as such usage was considered a natural and authentic condition. Further, dictionaries are valuable resources that facilitate optimum writing performance. On the other hand, all machine translation engines were strictly prohibited.

There is some controversy over whether writing topics should be personal or general in this context, as both have pros and cons. Nevertheless, this study assigned contemporary general topics that were considered noteworthy in the societal sense. This was because such choices would aid participants in constructing and developing logical arguments. This supports an argument presented by White (1995), who asserted that interest is one of the minimum requirements for writing tests; that is, prompts must adequately inspire writers to express their opinions with a certain degree of interest and motivation. Taking this under consideration, this study presented participants with two options, each of which were based on contemporary news stories. The first was "Immigration policies for Japan," while the second was "Casino in Osaka." Participants were required to quickly decide on their topics, construct titles, and begin searching Internet sources to prepare for their tasks.

Once their essays were complete, a student survey was conducted in which participants were asked to answer four questions about their argumentative writing experiences (Appendix 2). A Japanese version of the questionnaire was actually distributed, but the author later created an English translation for presentation in this article.

3.3 Analysis

This study employed structural equation modeling (SEM) to help understand how local grammatical accuracy affected global accuracy. SEM is a useful method for theory testing and development; it "provides a basis for making meaningful inferences about theoretical constructs and their interrelations" (Anderson & Gerbing, 1998, p. 411). As an analytical tool, this study used EQS for SEM analyses. A total of four statistics were checked to assess model fit, including χ^2 statistics, comparative fit index (CFI), root mean-square residual (RMSEA), and standardized root mean square residuals (SRMR). The χ^2 is a badness-of-fit statistic, and is thus used to "assesses the magnitude of discrepancy between the sample and fitted covariance matrices" (Hu & Bentler, 1998, p. 426). The CFI is "an incremental fit index that measures the relative improvement in the fit of the researcher's model over that of a

baseline model" (Kline, 2011, p. 208). It is a normed index with a range of 0–1 (Hu & Bentler, 1998), with values higher than 0.95 indicating good fit. The RMSEA is "scaled as a badness-of-fit index where a value of zero indicates the best fit" (Kline 2011, p. 205), with value less than 0.05 indicating good fit (Kline, 2011). Finally, the SRMR is "a measure of the mean absolute correlation residual, the overall difference between the observed and predicted correlations," with values less than 0.08 indicating acceptable fit (Kline, 2011, p. 209). Although many scholars are cautious about overgeneralizations resulting from these fit indexes, such criteria are generally treated as "golden rules."

4. Results and Discussion

4.1 SEM analysis

This section discusses the procedures and results of the SEM analysis conducted on the relationship between local accuracy and global accuracy in the context of the obtained essays. Table 1 shows descriptive statistics for the evaluation scores produced for local and global accuracy. As shown, skewness and kurtosis (all within ±2) indicated normal statistical distributions.

Table 1. Descriptive statistics for evaluation scores by factor (N = 155)

	N	Mean	SD	Min.	Max.	Skewness	Kurtosis
Local accuracy							
SV structure	155	2.95	0.67	1.5	4	-0.08	-0.80
Conjunction	155	2.33	0.63	1.0	4	0.04	-0.29
Post-modifier	155	2.44	1.03	1.0	4	0.12	-1.24
Global accuracy							
Sentential	155	3.35	0.50	2.0	4	0.09	-0.83
Supra-sentential	155	3.31	0.64	2.0	4	-0.41	-0.73

It was first necessary to establish a base measurement model. As shown in Figure 1, a two-factor model was constructed with one representing local grammatical accuracy (integrating the accuracy of subject-verb (SV) structures, conjunctions, and post-modifiers) and the other representing global accuracy (composed of sentential and supra-sentential assessment scores). Univariate statistics are shown in Table 2.
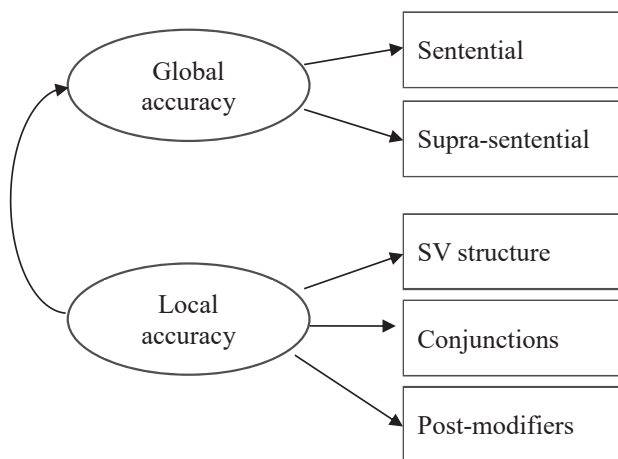
Figure 1. Base model for SEM

Table 2. Univariate statistics of base model

Variable	Local			Global	
	SV structure	Conjunction	Postmodifier	Sentential	Supra-sentential
Mean	2.94	2.33	2.44	3.35	3.31
Skewness	-0.08	0.04	0.12	0.09	-0.42
Kurtosis	-0.78	-0.25	-1.22	-0.80	-0.70
SD	0.67	0.63	1.03	0.50	0.64

Figure 2 shows the results of the SEM analysis using the base model, while Table 3 shows the model fit statistics. As shown, χ^2 was 9.67 (*df*: 4, $p<.05$), CFI was .97, RMSEA was .10 (.01 - .17), and SRMR was .04. Although these results indicated a moderate fit when considering the small sample size and relative simplicity of the model, they did not demonstrate a good fit according to the "golden rules" of the fit indices.
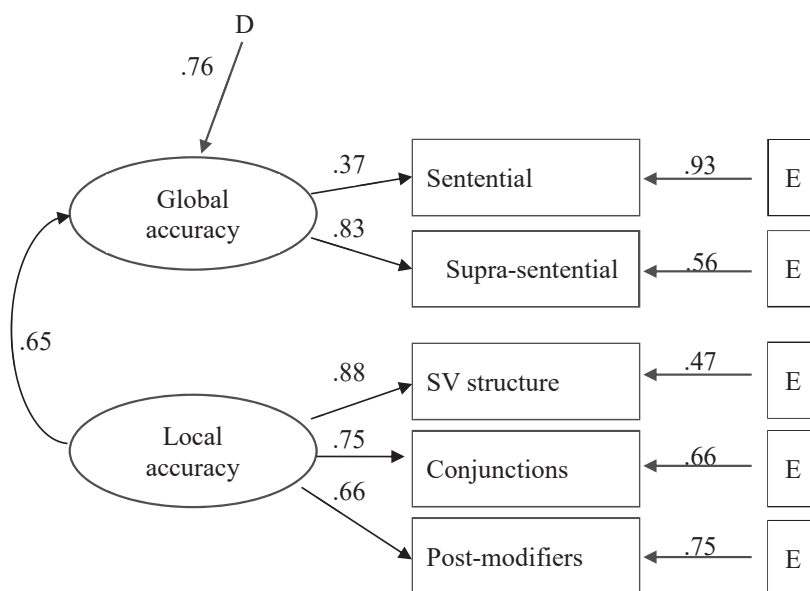
Figure 2 SEM result for base model

Table 3. Model fit statistics for base model

	χ^2	df	p	CFI	RMSEA	SRMR
Base model	9.67	4	<.05	.97	.10	.04

Despite the moderate fit of this model, modification was considered an option for increasing reliability in regard to the interpretation of the pass coefficients. As a model modification indicator, we thus applied the Lagrange multiplier (LM) test (available in EQS). The LM test "measures in an estimation algorithm the rate of change in the optimal value of a fit function as constraints on estimation change" (Kline, 2011, p. 216). Among the two possible paths the LM test revealed for improving model fit, a path from SV structure (an observed variable) to global accuracy (a latent variable) was added to the base model in order to examine the direct relationship between the accuracy of the SV structure and global accuracy. In this regard, it was believed theoretically justifiable to consider that a sentence generally has a subject and verb; as such, the fundamental structure of a subject and verb and their coherency would have a significant influence on global accuracy.

Figure 3 shows the SEM results of the modified model, while Table 4 shows how its fit statistics compared to those of the base model. As shown, χ^2 was 5.10 (df: 3, p = .17), CFI

was .99, RMSEA was .07 (.00 - .16), and SRMR was .03. All indices thus indicated a good fit. The modified model was therefore used for analysis.
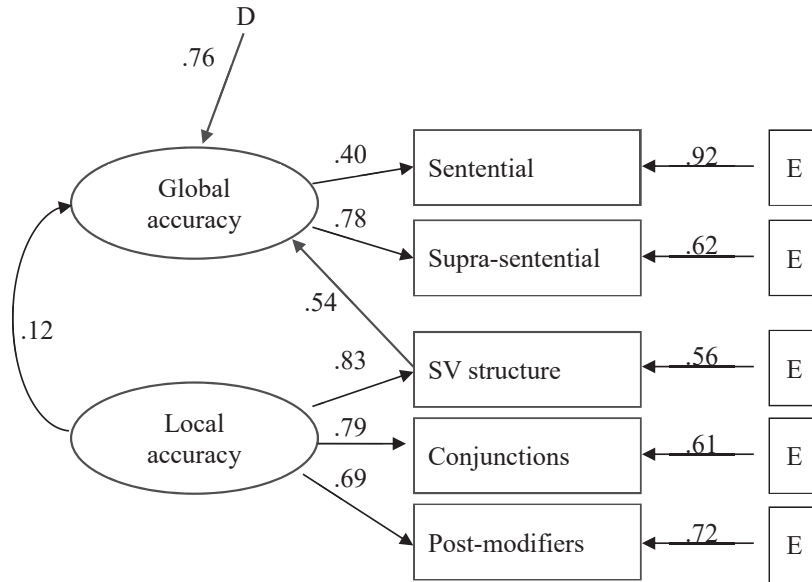

Figure 3. SEM results for modified model

Table 4. Model fit statistics for both the base and modified models

	χ^2	df	p	CFI	RMSEA	SRMR
Base model	9.67	4	<.05	.97	.10 (.01 - .17)	.04
Modified model	5.10	3	.17	.99	.07 (.00 - .16)	.03

The SEM analysis based on the modified model showed that the path coefficient representing local accuracy on global accuracy was low, at .12. This demonstrates a very weak relationship between local accuracy and global accuracy.

4.2 Student survey

Participants were asked the four following questions (see Table 5 for results):

- (Q1) In your experience, what is the general criterion for writing evaluation?
- (Q2) How often have you experienced argumentative writing?

- (Q3) Which aspects were you most aware of while writing?
- (Q4) Which aspect is most important for improving your writing skills in the future?

For Q1, 83% of respondents mostly had their writing evaluated on grammatical accuracy, followed by content (9%), fluency (5%), and structure and organization (3%). For Q2, only 3% answered that they experienced argumentative writing often, with other answers including sometimes (8%), several times (79%), almost never or never (10%), and one student indicated no such experiences. For Q3, 43% said they were most aware of grammatical accuracy while writing, followed by the formulation of opinions (40%), structure (9%), and fluency (7%). For Q4, 49% answered that grammatical accuracy was the most important area of improvement, followed by the formulation of opinions (42%), fluency (6%), and structure and organization (3%).

Table 5. Student survey results ($N = 155$)

Q1[a]	83%: Grammatical accuracy	9%: Content	5%: Fluency (number of words)	3%: Structure & organization
Q2[b]	79%: Several times	10%: Almost never or never	8%: Sometimes	3%: Often
Q3[c]	43%: Grammatical accuracy	40%: Formulation of opinions	9%: Structure and organization	7%: Fluency (number of words)
Q4[d]	49%: Grammatical accuracy	42%: Formulation of opinions	6%: Fluency (number of words)	3%: Structure and organization

Note. [a] In your experience, what is the general criterion for writing evaluation?; [b] How often have you experienced argumentative writing?; [c] Which aspects were you most aware of while writing?; [d] Which aspect is most important for improving your writing skills in the future?; Results are shown in descending order, from left to right.

5. Discussion

Many researchers have made arguments about the general importance of grammar in writing (Celce-Murcia, 1991; Hinkel 2013; Rivers and Temperley, 1978). Others have also made more specific arguments about the importance of grammar for Japanese learners of English, particularly due to the substantial syntactical differences between languages (Elder and Davies, 1998). However, this study's SEM results showed a very low-level relationship between local accuracy and global accuracy, which were defined as grammar

and content, respectively. Amid a robust rise in the demand for written communication, it is highly important to consider why this occurred. Scholars who are interested in practical interventions must also determine the pedagogical implications of this result. The above relationship should thus be examined based on two aspects derived from the obtained essays, the first of which concerns those demonstrating low local accuracy with relatively high global accuracy, while the second involves those demonstrating high local accuracy with relatively low global accuracy.

5.1 Essays with low local accuracy and high global accuracy

First, a closer look at the essays demonstrating this condition shows a general tendency to use relatively short, simple, or compound sentences rather than complex sentences, with low frequencies of subordinate conjunctions and post-modifiers. This must have resulted in low evaluations for local accuracy. Sentence of such low complexity usually convey explicit and straightforward messages, even when they lack complete correctness for the subject-verb agreement. Although these participants had acquired a certain level of grammatical knowledge, this information was inefficiently used during actual communication. In this sense, there seemed to be a disparity between their grammatical knowledge and the ability to use it when writing. This may be attributable to conventional teaching practices that focus on uncontextualized grammatical exercises and testing. Further, school curricula often neglect the importance of actual writing experience. Another contributing factor may be that the raters employed in this study had substantial experience evaluating writings produced by Japanese university students. It seems likely that they were accustomed to reading, understanding, and following the ideas presented in the essays, which may have raised their evaluation scores for global accuracy regardless of grammatical quality.

5.2 Essays with high local accuracy and low global accuracy

Second, some participants produced essays with high local accuracy and relatively low global accuracy. When compared to those described in section 5.1, participants with supra-sentential global evaluations of 2.5 or lower produced essays that were characterized by a high complexity of individual sentences and frequent attempts to use subordinate conjunctions and post-modifiers. It appears that their intention to use versatile sentence structures was reflected in the evaluations they received for local accuracy; in some cases, however, participants failed to successfully convey their intended meanings due to length

and complexity. This emphasizes the grammatical burdens participants carried while writing, thus posing an important question; why did they place excessive value on grammatical forms even when their messages were not effectively conveyed? This may be attributable to how writings are traditionally evaluated by teachers. Incidentally, 83% of respondents to the student survey indicated that essays were typically evaluated based on grammatical accuracy, which precisely reflects a longstanding strategy used to evaluate writings in Japanese schools; that is, grammar is prioritized based on a general understanding that it is the essence of writing skill. Considering the fact that teachers usually depend on grammatical accuracy when providing feedback, it is unsurprising that students are generally inclined to concentrate on this issue over actual content. When considering the substantial linguistic distance between English and Japanese, it seems reasonable that Japanese learners of English and their teachers pay increased attention to language forms. As McLaughlin (1990) asserted, however, efforts are wasted when too much attention to grammatical forms hinders effective communication. From this perspective, the rules of grammar should be represented not only through knowledge, but also rhetorical grammar; in turn, this makes writing more interesting and appealing by making grammatical knowledge more useful in the context of written communication (Kolln, 1996; Lefstein, 2009).

Following the above arguments, it is necessary to consider ways of reducing the excessive pressures imposed by the current focus on grammatical accuracy in writing. This study proposes two strategies. First, it seems relevant to emphasize global accuracy (i.e., content) over local accuracy when formulating the evaluation criteria. Second, feedback on local accuracy could either be eliminated or reduced. Truscott (1996) strongly argued that grammar corrections were inappropriate in the context of writing feedback, claiming that grammatical feedback was ineffective or even harmful. He specifically contended that grammar corrections only addressed superficial grammatical forms while largely neglecting content development and organization. This view was previously supported by Hendrickson (1978), whose study on the effects of feedback found that a focus on communicative problems was far more beneficial than an emphasis on grammar. In regard to the evaluation criteria and feedback strategies, both measures seem controversial when considering the level of importance Japanese learners of English place on grammatical forms. In fact, it also seems likely that teachers are generally reluctant to prioritize content over grammatical accuracy, which often differs from conventional teaching practices used for writing evaluations and feedback. However, it seems probable that this will reduce the burdens imposed by

grammatical accuracy, thereby decreasing anxieties over formal issues while writing. While it may not be appropriate to implement these measures at all times, they could occasionally be introduced so that writers can increase their capacities to construct ideas and opinions rather than confining themselves to local grammatical accuracy during the writing process.

The second concern about essays with low global accuracy is that such issues likely stem from cultural differences found between Japan and English-speaking countries, which often affect writing styles (Harris and Silva, 1993). Specifically, Japanese writers will often gradually reach main topics rather than stating them in high-priority fashion at the beginning. This may sometimes confuse native speakers or make it difficult for them to infer deeper and subtler meanings, simply because the practice does not fit with their cultural expectations. In fact, such essays were more understandable to the present author, whose native language is Japanese. While it may be uncommon for many English speakers to underscore Japanese culture and writing styles, they will likely find value in generously and considerately respecting these issues when communicating. Accordingly, it is highly important for students to be equipped and prepared with adequate skills aimed at constructing ideas and opinions in the native writing style, thus promoting efficient communication in the global context.

5.3 Student survey

As described earlier in section 4.2, responses to Q1 showed a distinctive tendency for writing evaluations to be based around the accuracy of grammatical forms. This shows that students are continually urged to concentrate on accuracy rather than focusing on content while writing. Such excessive engagement in local accuracy could be alleviated through a restructuring of both the evaluation criteria and feedback strategies used by teachers. Q2 responses revealed that participants generally had insufficient writing experience. This highlights the fact that writing is given a lower priority than other learning activities, despite the generally prevailing tendency to focus on productive English skills. Q3 results showed that 40% of participants were attentive to the formation of opinions/content when writing, which was nearly equivalent to that for the awareness of local accuracy (43%). This is likely attributable to the prior instructions emphasizing argumentativeness as evaluation criteria by the NS evaluators. It is thus likely that more than 43% would have selected "local accuracy" in the absence of such specific instructions. In this sense, our experiment may have provided a meaningful opportunity for writers to shift their focus toward content. Indeed, Q4 results showed that 43% recognized insufficiencies in their argumentativeness

and thus recognized the need to focus on constructing better arguments, while 49% believed they needed to improve their grammatical skills. It is notable that many acknowledged the need to acquire a certain level of argumentativeness in the English style.

6. Conclusion

In the context of both local accuracy and global accuracy, this study investigated the relationship between sentential grammatical accuracy and sentential/supra-sentential comprehensibility in English-language argumentative writings produced by Japanese university students. Despite the fact that many previous studies have argued about the significance of grammar in writing and asserted its particular importance for Japanese writers due to interlinguistic differences, this study's SEM analysis revealed a low relationship between local and global accuracy. To investigate the cause for this, participant essays were divided into two groups, including (a) one for high global accuracy rates accompanied by low local accuracy scores, and (b) another for low global accuracy rates accompanied by high local accuracy scores. Although the essays in group (a) successfully conveyed their intended meanings, they received low scores for local accuracy. When considering the generally high levels of English proficiency of participants, this shows that many still lack the ability to transfer their knowledge into writing. Meanwhile, the essays in group (b) show the need for attention toward creation of content or argument, as these participants were likely overly focused on grammatical forms. To relieve students from the slightly biased prioritization of grammar, it seems pertinent to shift evaluation and feedback strategies toward content and organization, thus facilitating writers in communicating their messages. Indeed, more efficient written communication requires the integration of local accuracy and global accuracy. In other words, writers must successfully convey their intentions with a high command of linguistic forms, as grammar should help them express their ideas more clearly in the target community.

This study had several limitations. First, a relatively small sample size was used for the SEM analysis. As a greater number of writing samples should yield more reliable results, large-scale studies are needed to further investigate the issue. Another was theme for writing. Although it is difficult to decide the most appropriate titles for students due to varied levels of social interest and knowledge, it seems necessary to conduct a similar study offering a greater number of titles and types. This will further ensure that the evaluation

results (particularly the global accuracy scores) are fair and unbiased.

Despite these limitations, this study's snapshot of the current teaching methods offers important pedagogical implications for writing instruction. It is hoped that the results shed light on the need to reconfirm the writing instruction strategies used at universities, thus ensuring that students are better prepared for their upcoming experiences in the world of English writing.

Notes

This paper is based on the oral presentation made at the Tenth Kansai Gaidai Class Activity Research Forum.

Acknowledgments

References

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin, 103*(3), 411-423.

Andrews, R. (2010). Teaching sentence-level grammar for writing: The evidence so far. *Beyond the grammar wars. A resource for teachers and students on developing language knowledge in the English/Literacy classroom*, 91-108.

Bachman, L. F., & Palmer, A. S. (1996). *Language testing in practice: Designing and developing useful language tests*. Oxford: Oxford University Press.

Celce-Murcia, M. (1991). Grammar pedagogy in second and foreign language teaching. *TESOL Quarterly, 25*(3), 459-480.

Elder, C., & Davies, A. (1998). Performance on ESL examinations: Is there a language distance effect? *Language and Education, 12*(1), 1-17.

Harris, M. P., & Silva, T. (1993). Tutoring ESL students: Issues and options. *College Composition and Communication, 14*(4), 525-537.

Hendrickson, J. M. (1978). Error correction in foreign language teaching: Recent theory, research, and

practice. *Modern language journal,* 387-398.

Hinkel, E. (2013). Research findings on teaching grammar for academic writing. *English Teaching, 68*(4), 3-21.

Hu, G., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*(4), 424-453.

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York: The Guilford Press.

Knapp, P., & Watkins, M. (2005). *Genre, text, grammar: Technologies for teaching and assessing writing*. North South Wales: University of North South Wales Press.

Kolln, M. (1996). Rhetorical grammar: A modification lesson. *The English Journal, 85*(7), 25-31.

Lasagabaster, D., & Doiz, A. (2018). Language errors in an English-medium instruction university setting: How do language versus content teachers tackle them? *Porta Linguarum: Revista internacional de didáctica de las lenguas extranjeras*, (30), 131-148.

Lefstein, A. (2009). Rhetorical grammar and the grammar of schooling: Teaching 'powerful verbs' in the English National Literacy Strategy. *Linguistics and Education, 20*, 378-400.

McLaughlin, B. (1990). Restructuring. *Applied linguistics, 11*(2), 113-128.

Purpura, J. E. (2004). *Assessing grammar*. Cambridge: Cambridge University Press.

Rivers, W. M., & Temperley, M. S. (1978). *A Practical guide to the teaching of English as a second or foreign language*. New York: Oxford University Press.

Schwartz, B. (1986). The epistemological status of second language acquisition. *Second Language Research, 2*(2), 120-159.

Truscott, J. (1996). The case against grammar correction in L2 writing classes. *Language Learning, 46*(2), 327-369.

White, E. M. (1995). An apologia for the timed impromptu essay test. *College Composition and Communication 46*, 30-45.

Appendix 1

Rubrics for Argumentative Writing

Global accuracy (sentential)

4	Each sentence is highly comprehensible and communicative. (Reader can always understand what a writer is trying to communicate in a sentence.)
3	Each sentence is acceptably comprehensible and communicative. (Reader can understand most of what the writer is trying to communicate in a sentence.)
2	Each sentence is not sufficiently comprehensible or communicative. (Reader can understand less than half of what the writer is trying to communicate in a sentence.)
1	Each sentence is barely comprehensible and communicative. (Reader can understand little about what the writer is trying to communicate in a sentence.)

Global accuracy (supra-sentential)

4	Essay is highly comprehensible. The reader can always understand the arguments the writer is trying to present.
3	Essay is acceptably comprehensible. The reader can understand most of the arguments the writer is trying to present.
2	Essay is not sufficiently comprehensible. The reader can understand less than half of the arguments the writer is trying to present.
1	Essay is barely comprehensible. The reader can understand little about the arguments the writer is trying to present.

Local grammatical accuracy

4	Highly accurate with high frequency and efficient usage
3	Generally accurate with medium frequency and efficient usage
2	Sometimes accurate with lower frequency and less efficient usage
1	Seldom accurate with very limited frequency and inefficient usage

Note. The same rubric is used for each of the three grammatical factors, including SV structure, post-modifiers, and conjunctions.

Kazumi Tsutada

*Judgment criteria for local grammatical accuracy

SV structure

✓ A sentence has a subject and verb, both in accurate form.

Use of post-modifiers

✓ Post-modifiers (relative clauses, participles, infinitives, and adjective phrases) are used accurately.

Use of conjunctions

✓ Conjunctions (coordinate and subordinate) are used accurately, both in form and meaning.

Appendix 2

Student Survey

Q1 In your experience, what is the general criterion for writing evaluation? (Select two items)

___ Grammatical accuracy

___ Content

___ Fluency (number of words)

___ Structure and organization

Q2 How often have you experienced argumentative writing?

___ Often   ___ Sometimes   ___ Several times

___ Almost never   ___ Never

Q3 Which aspects were you most aware of while writing? (Select two items)

___ Grammatical accuracy

___ Content, formulation of opinions

___ Structure and organization

___ Fluency (number of words)

Q4 Which aspect is most important for improving your writing skills in the future? (Select two items)

___ Grammatical accuracy

___ Content (formulation of opinions)

___ Fluency (number of words)

___ Structure and organization

（つただ・かずみ　短期大学部講師）