

Compositional skills error analysis: The case of the university environmental engineering first-year students

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ABSTRACT

The compositional skills are analyzed to determine whether college students have improved their writing ability after the two years additional in the senior high school curriculum. This study examines the errors committed by first-year engineering students. There were 90 student respondents written outputs collected and subjected to Grammarly software. The researchers analyzed the data using the Scheffe test, comparing the difference between clarity, engagement, and delivery. Analysis of variance (ANOVA) was employed to test whether there is a significant difference among other variables. Findings revealed that clarity is the most common error committed by the student-respondents. The errors committed between male and female respondents do not show a difference. The K-12 graduates' compositional errors do not differ significantly from that in the Alternative Learning System (ALS) passers or the old basic education curriculum graduates. It is in delivery that students vary. This finding implies that college students' compositional skills still need strengthening. Instructors are encouraged to provide comprehensive activities and writing exercises to both genders, regardless of their curriculum. It is recommended that university language instructors identify specific interventions to help students struggling with writing. Therefore, providing enough written opportunities and practices is vital to make college students enhance their compositional skills.

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1. INTRODUCTION

Among the four language skills in English, writing is considered the most complex, most challenging, and tiring task but a crucial skill for college students to learn [1], [2]. Writing requires sufficient command over the target language (TL) that frequently involves multiple competencies (e.g., thinking, reading, and comprehension) to achieve the task successfully [3]. However, the local university instructors have observed that first-year tertiary students, after 12-14 years of basic education and exposure to the English language, still have difficulty generating rich ideas or expressing their thoughts. Teaching and helping students reduce mistakes is crucial [4]. Thus, Lewis and Ferretti [5] indicated that writing is one of the lowest priorities in many English teachers' classrooms [6].

Notably, Commission on Higher Education's (CHED) General Education Curriculum for higher years has no English subject since it has already been incorporated into the K-12 Curriculum. In short, students are expected to have honed their second language (L2) skills, including the ability to write well-structured sentences [7]. In this scenario, the instructors are put in a disadvantaged situation. Writing has seemed to emerge as one of the college instructor's challenges [8].

Thus, the researchers are interested in analyzing the student respondents' compositional skills because today, many colleges and universities in the Philippines are experiencing changes implemented by the CHED. CHED Memo No. 105, s. 2017 states that beginning academic year 2017-2018, all grade 12 graduates are eligible to enter college regardless of the track or strand in the Senior High School. Above and beyond, former college dropouts, the alternative learning system (ALS), and old basic curriculum graduates are also being sought in the memorandum to return or fill the college classrooms. To sum up, the individual institution's standards and goals are compromised in recruiting high school graduates who choose to enter college. As a result, students who are not considered college material are now being courted by colleges. One fact remains that colleges will continue to accept poorly prepared students regardless of their standards.

This study explores the environmental engineering students' compositional skills at a university level and relates these skills to other factors that have impacted their essays: i) Determine the most common error student respondents commit in their written essays regarding clarity, engagement, and delivery; ii) Determine the significant difference in the errors committed between the male and the female respondents; iii) Determine if the errors committed by the K-12 graduates differ significantly from that in the ALS passers or the old basic education curriculum graduates; iv) Define to what extent the respondents in science, technology, engineering, and mathematics (STEM) differ from those of other academic strands.

2. RESEARCH METHOD

This study used a descriptive comparative design to analyze errors in the student respondents' composition. Respondents were given a review and practice essay writing before the activity. Orientation of the essay's correct structure, exciting introduction, thesis statement, topic sentences, coherent main body, and the relevant conclusion was discussed. The guided classroom activity was conducted separately by section for two hours. The study of Nunes [9] found that the five-paragraph formula is enough to say in a very organized way. The researchers subjected the paper to the Grammarly software to process students' essays.

The Scheffe test was utilized to compare the categorical data concerning the significant difference in clarity, engagement, and delivery. This test was used to compare the means of clarity, engagement, and delivery at once. At the same time, analysis of variance (ANOVA) was employed to test whether there was a significant difference among other variables. The level of significance for statistical analysis was set at 0.01 and 0.05.

3. RESULTS AND DISCUSSION

3.1. Student respondents' most common errors in terms of composition regarding clarity, engagement, and delivery

As shown in Table 1, the student respondents' most common error in writing composition was clarity, with the highest mean error of 6.65, followed by delivery, with a mean error of 6.41. At the same time, engagement had the least mean error of 4.15. Based on the Scheffe test, there was a significant difference between clarity and engagement and between delivery and engagement, as shown by the p-values greater than the 0.01 level of significance. However, there was no significant difference in the mean errors between clarity and delivery. This finding indicates that student respondents have difficulty following the rules, principles, and processes that govern the structure of a sentence, specifically conciseness, voice, and readability. There is a need to understand correct word order and organization in phrases and sentences. This result means that respondents mainly need bolstering in this writing area for clarity and delivery.

Table 1. Most common error in composition

Type of errors	Mean	F-value/significance
Clarity	6.65a	10.74/0.000**
Engagement	4.15b	
Delivery	6.41a	

**=significant at 1% level

The word “own” in the first example creates a tautology as seen in Table 2. Their and own are two words that convey the same meaning resulting in a needless repetition of the same idea. They can distract the reader and take up unnecessary space, so excluding them simplifies sentences and relays your point faster [10], [11]. Passive voice is often a weaker type of sentence construction though it is not incorrect and is completely fine to use in moderation. This active voice provides more clarity, brevity, and accountability than the passive voice [12]. According to Plavén-Sigra *et al.* [13], readability is where a knowledgeable audience might find the above example hard to read; further stated that there is a steady decline of readability over time, even in the scientific literature. Readers are less receptive to what is said if they have to look into the main point [14]. Thus, to achieve greater conciseness, there is a need to evaluate long sentences. The less work, the reader, must do to understand the paper, the better [15].

Table 2. Description of errors in clarity

Type of error	Subtype/description of errors	Example
Clarity	Conciseness	Human has suffered a lot and endured the consequences of their own greedy doings.
	Passive voice	Lives of thousands of people from different places in the world have been wasted due to the calamities.
	Readability	We can stop using fossil fuels if we use fewer fuels like buy food that is locally produced, wherever possible, avoid buying processed foods, install solar panels on your roof at home so you can generate more renewable energy instead of relying entirely on oil, and gas.

The word “big” can be substituted by another term to minimize use too often or extensively as shown in Table 3. An idea does not always require a sophisticated word. Research by Dong *et al.* [16] thought that vocabulary knowledge has contributed to a variance in text comprehension and might impact reading comprehension. This means understanding the many meanings of individual words is part of studying the TL. The knowledge of vocabulary implies a word’s definition and shows how it fits into the context [17]. The noun “species” in the second example might combine better with an adjective other than intellectual. According to Bråten *et al.* [18], the student respondent paper’s strength lies in presenting arguments effectively, not using big words. Research by Atasoy and Temizkan [19] stated that errors should not be allowed in a well-organized text. They emphasized that words must be used in the right place with the correct meaning; attention must be paid to the succinct expression of feelings and ideas thus, purging unnecessary words and sentences from the text.

Table 3. Description of errors in engagement

Type of error	Subtype/description of errors	Example
Engagement	Overused vocabulary	It has become one of the subjects of big social issues.
	Fluency	How can the most intellectual species living on this planet destroy their own home?

According to Paurillo [20], when essays are written in an informal tone, such as contraction, colloquial words, expressions, and abbreviated forms, the writer’s knowledge of the subject is disregarded. Research by Hyland and Jiang [21] mentioned that it is common among students to use informal features, make errors and shift from formality to informality. Academic writing needs a more formal approach than informal because these two are opposite ends on a continuum of formality [22]. Formality is achieved by accumulating features such as lexico-grammatical expression, sophisticated vocabulary, and lexically dense constructions [23]. At the same time, informality occurs through lexico-grammatical infelicity, extensive clause coordination, and contractions. Language sensitivity means that students must be careful in using the words because their use may intentionally or not upset some people [24]. In the example presented in Table 4, some readers may find “businessmen” outdated or non-inclusive. Students should substitute appropriate words for more acceptable terms when writing about sensitive topics, namely racial and ethnic groups, gender, age, illness and disability, sexual preference, and titles [25], [26].

Table 4. Description of errors in delivery

Type of error	Subtype/description of errors	Example
Delivery	Formality	However, the sea levels are not the only one affected due to global warming and climate change.
	Sensitivity	One can easily make laws in protecting the natural resources but still favors businessmen in exchange for money.

3.2. Gender differences in the errors committed

Tabular values show no significant difference in the male and female errors, as demonstrated by the p-values greater than 0.05 level of significance as presented in Table 5. This result reveals that male and female respondents do not show a difference in committing errors. Reilly *et al.* [27] contradicted this finding because their study showed that female performed significantly higher than male on writing tasks.

Table 5. Statistical distribution of students by gender

Compositional skills	Mean		Significance (ns)
	Male	Female	
Clarity	7.15	6.15	0.207
Engagement	4.02	4.28	0.574
Delivery	6.71	6.11	0.598

Based on the current study, it is clear that this gender variable does not explain the writing gap. Other factors, such as motivation, attitude, engagement, and other variables, can be counted. The challenge is to identify specific interventions to help students struggling with writing. There is a need for college instructors to find writing activities that will cater to both genders' needs.

3.3. Comparison of the errors committed by K-12, alternative learning system passers, and the old basic education curriculum graduates

Table 6 reveals no significant difference in the three curriculums' errors, as shown in the p values more significant than the 0.05 level of significance. This result means that K-12, ALS, and the old basic curriculum student respondents writing errors do not vary significantly. The errors committed by the K-12 do not cause an impact of difference compared to the ALS and the old curriculum student respondents. The additional two years of senior high school are supposed to improve education delivery and broaden higher education preparation goals. There is a need to reintroduce and reinforce the English language at the college level, whether the student is a graduate of K-12, ALS, or the old curriculum.

According to Kim and Park [28], students do not understand minimizing errors in writing. Students prefer to practice their oral skills more than develop their writing skills [29], [30]. Nonetheless, these students' errors are vital information to the instructors on how and what to correct.

Table 6. Mean of errors comparison by curriculum

Compositional skills	Mean			Significance (ns)
	K-12	ALS	OLD	
Clarity	9.75	8.00	6.47	0.205
Engagement	4.50	5.00	4.11	0.821
Delivery	7.75	3.00	6.41	0.594

3.4. Comparison of respondents' errors according to academic strand

As seen in Table 7, the tabular values show no significant difference between science, technology, engineering, and mathematics (STEM) and other academic strands except in the delivery, as demonstrated by the p-values greater than the 0.05 level of significance. This result means having the same letter is not significantly different using least significant difference (LSD) at a 5% significance level. Business, Accountancy, Management (BAM) has significantly had the highest error in the delivery as the third type of error compared with STEM and General Academic Strand (GAS). STEM, GAS, Humanities, Education, and Social Sciences (HESS) are not significantly different. BAM and HESS are not significantly different in terms of the error in the delivery. In summary, student respondents vary in their performance in delivering their written composition. An essay's formality is vital because it helps the reader understand its context. The formal tone establishes a sense of authority, confidence, and a relationship with the reader [20].

Table 7. Comparison of the extent of errors by strand

Type of error	Strand	Mean	S.D.	F-value	p-value	Significance
Clarity	STEM	5.69	2.99	0.700	0.594	ns
	BAM	7.26	4.18			
	GAS	6.60	3.88			
	HESS	6.57	3.27			
Engagement	STEM	4.04	1.89	1.075	0.374	ns
	BAM	4.53	2.13			
	GAS	3.85	2.18			
	HESS	3.42	1.39			
Delivery	STEM	5.47ab	4.02	2.828	0.038	*
	BAM	9.40c	5.55			
	GAS	4.40ab	3.20			
	HESS	5.42abc	6.42			

ns= not significant; *=significant at 5% level

4. CONCLUSION

Despite the two additional years in senior high school, which cannot be understated, the college students' compositional skills still need strengthening, particularly in organizing words, to produce an effect. Instructors are encouraged to provide comprehensive activities and writing exercises to both genders, whether the student is a K-12, ALS, or old basic curriculum graduate. Since students' compositional skills may vary according to the academic strand, the university's language instructors must identify specific interventions to help students struggling with writing. Thus, putting back all English subjects in the university's programs is essential in learning English as a L2. Therefore, providing enough written opportunities and practices is vital to make college students enhance their compositional skills to improve their communication.

In light of the conclusions made in this study, the researchers recommend that the Philippine Department of Education (DepEd) language curriculum planners and developers of the K-12 may consider the findings in reviewing the senior high school curriculum. Also, college and university instructors should seriously strengthen compositional skills, a crucial skill for college students. Moreover, college students find ways to help themselves be more competent and acquire the skills to express themselves in writing, which is an advantage in succeeding in an academic task and beyond. Lastly, researchers may explore other components of compositional skills.




REFERENCES

- [1] S. H. Lee, "Attribution in high- and low-graded persuasive essays by tertiary students," *The Function of Language*, vol. 17, no. 2, pp. 181–206, 2010, doi: 10.1075/fo1.17.2.02lee.
- [2] J. W. Pennebaker, C. K. Chung, J. Frazee, G. M. Lavergne, and D. Beaver, "When Small Words Foretell Academic Success: The Case of College Admissions Essays," *PLoS ONE*, vol. 9, no. 12, pp. 1–10, 2014, doi: 10.1371/journal.pone.0115844.
- [3] M. Prat-Sala, and P. Redford, "Writing essays: does self-efficacy matter? The relationship between self-efficacy in reading and writing and undergraduate students' performance in essay writing," *Educational Psychology: An International Journal of Experimental Psychology*, vol. 32, no. 1, pp. 9–20, 2011, doi: 10.1080/01443410.2011.621411.
- [4] K.-I. H. Han, "An investigation into the gap between Korean University students' grammatical awareness," *Indonesian Journal of Applied Linguistics*, vol. 7, no. 1, pp. 117–126, 2017, doi: 10.17509/ijal.v7i1.6864.
- [5] W. E. Lewis, and R. P. Ferretti, "Topoi and literary interpretation: the effects of a critical reading and writing intervention on high school students' analytic literary essays," *Contemporary Educational Psychology*, vol. 36, no. 4, pp. 334–354, 2011, doi: 10.1016/j.cedpsych.2011.06.001.
- [6] A. Javadi-Safa, "A brief overview of key issues in second language writing teaching and research," *International Journal of Education and Literacy Studies*, vol. 6, no. 2, pp. 12–25, 2018, doi: 10.7575/aiac.ijels.v.6n.2p.15.
- [7] J. A. Butler and M. A. Britt, "Investigating instruction for improving revision of argumentative essays," *Written Communication*, vol. 28, no. 1, pp. 70–96, 2011, doi: 10.1177/0741088310387891.
- [8] S. Praise and K. Meenakshi, "Importance of grammar in communication," *International Journal of Research Studies in Language Learning*, vol. 4, no. 1, pp. 97–101, 2014, doi: 10.5861/ijrsl.2014.789.
- [9] M. J. Nunes, "The five-paragraph essay: its evolution and roots in theme-writing," *Rhetoric Review*, vol. 32, no. 3, pp. 295–313, 2013, doi: 10.1080/07350198.2013.797877.
- [10] P. N. Johnson-Laird, "The interpretation of the passive voice," *The Quarterly Journal of Experimental Psychology*, vol. 20, no. 1, pp. 69–73, 2007, doi: 10.1080/14640746808400129.
- [11] J. Mirault, J. Snell, and J. Grainger, "Reading without spaces revisited: The role of word identification and sentence-level constraints," *Acta Psychologica*, vol. 195, pp. 22–29, 2019, doi: 10.1016/j.actpsy.2019.03.001.
- [12] N. Millar, B. Budgell, and K. Fuller, "Use the active voice whenever possible: the impact of style guidelines in medical journals," *Applied Linguistics*, vol. 34, no. 4, pp. 393–414, 2013, doi: 10.1093/applin/ams059.
- [13] P. Plavén-Sigra, G. J. Matheson, B. C. Schiffler, and W. H. Thompson, "The readability of scientific texts is decreasing over time," *eLife*, vol. 6, pp. 1–14, 2017, doi: 10.7554/eLife.27725.
- [14] R. G. Benjamin, "Reconstructing readability: recent developments and recommendations in the analysis of text difficulty," *Educational Psychology Review*, vol. 24, no. 1, pp. 63–88, 2012, doi: 10.1007/s10648-011-9181-8.
- [15] D. Oelke, D. Spretke, A. Stoffel, and D. A. Keim, "Visual readability analysis: how to make your writings easier to read," *IEEE Transactions on Visualization and Computer Graphics*, vol. 18, no. 5, pp. 662–674, 2012, doi: 10.1109/TVCG.2011.266.




- [16] Y. Dong, Y. Tang, B. W. Y. Chow, W. Wang, and W. Y. Dong, "Contribution of vocabulary knowledge to reading comprehension among Chinese students: a meta-analysis," *Frontiers in Psychology*, vol. 11, pp. 1–15, 2020, doi: 10.3389/fpsyg.2020.525369
- [17] T. Elyas and S. R. Shah, "Teaching/developing vocabulary through peer engagement and interactive strategies," *The TESOL Encyclopedia of English Language Teaching*, pp. 1–7, 2018, doi: 10.1002/9781118784235.eelt0742.
- [18] I. Bråten, L. E. Ferguson, H. I. Strømsø, and O. Anmarkrud, "Students working with multiple conflicting documents on a scientific issue: relations between epistemic cognition while reading and sourcing and argumentation in essays," *British Journal of Educational Psychology*, vol. 84, no. 1, pp. 58–85, 2014, doi: 10.1111/bjep.12005.
- [19] A. Atasoy and M. Temizkan, "Evaluation of secondary school students' writing fluency skills," *Kuram ve Uygulamada Eğitim Bilimleri*, vol. 16, no. 5, pp. 1457–1484, 2016, doi: 10.12738/estp.2016.5.0353.
- [20] P. M. Paurillo, "Research writing ability of senior high school students as perceived by teachers of sampled schools in Quezon City," *PEOPLE: International Journal of Social Sciences*, vol. 4, no. 3, pp. 1788–1800, 2019, doi: 10.20319/pijss.2019.43.17881800.
- [21] K. Hyland and F. (Kevin) Jiang, "Is academic writing becoming more informal?" *English for Specific Purposes*, vol. 45, pp. 40–51, 2017, doi: 10.1016/j.esp.2016.09.001.
- [22] H. Li and A. C. Graesser, "Impact of conversational formality on the quality and formality of written," in *Artificial Intelligence in Education: 21st International Conference, AIED 2020, Ifrane, Morocco, 2020*, pp. 321–332, doi: 10.1007/978-3-030-52237-7_26.
- [23] C. L. Liardet, S. Black, and V. S. Bardetta, "Defining formality: adapting to the abstract demands of academic discourse," *Journal of English for Academic Purposes*, vol. 38, pp. 146–158, 2019, doi: 10.1016/j.jeap.2019.02.007.
- [24] F. A. S. Zawahreh, "Applied error analysis of written production of English essays of tenth grade students in Ajloun Schools, Jordan," *International Journal of Learning and Development*, vol. 2, no. 2, pp. 280–299, 2012, doi: 10.5296/ijld.v2i2.1680.
- [25] A. M. L. Svalberg, "Language awareness in language learning and teaching: a research agenda," *Language Teaching*, vol. 45, no. 3, pp. 376–388, 2012, doi: 10.1017/S0261444812000079.
- [26] C. Finkbeiner and J. White, "Language awareness and multilingualism: a historical overview," in *Language Awareness and Multilingualism*, Springer Cham, 2017, pp. 3–17, doi: 10.1007/978-3-319-02240-6_1.
- [27] D. Reilly, D. L. Neumann, and G. Andrews, "Gender differences in reading and writing achievement: evidence from the national assessment of educational progress (NAEP)," *American Psychologist*, vol. 74, no. 4, pp. 445–458, 2019, doi: 10.1037/amp0000356.
- [28] Y. G. Kim, C. Park, and Y. Park, "Dimensions of discourse level oral language skills and their relation to reading comprehension and written composition: an exploratory study," *Reading and Writing*, vol. 28, pp. 633–654, 2015, doi: 10.1007/s11145-015-9542-7.
- [29] M. Huxham, F. Campbell, and J. Westwood, "Oral versus written assessments: a test of student performance and attitudes," *Assessment and Evaluation in Higher Education*, vol. 37, no. 1, pp. 125–136, 2012, doi: 10.1080/02602938.2010.515012.
- [30] M. Spratt, "The value of finding out what classroom activities students like," *RELJ Journal*, vol. 32, no. 2, pp. 80–101, 2001, doi: 10.1177/003368820103200206.

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