



## English Writing Skill of Bengali Medium Students: Comparison between First-Generation Learners (FGL) and non-First-Generation Learner (NFGL)

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### Abstract

*English writing skill is essential for the students of India in modern society. This skill is essential for the students to become a global learner. Although, this skill is taught from primary stages, secondary level is very crucial for the development of the writing skill especially in English. FGLs are very much neglected to achieve the English writing skill by several means in West Bengal, India. Objectives for this study were to compare attitude, connect activities of different components and achievements between FGL and NFGL students. Five null hypotheses are framed to compare achievements between FGL and NFGL students. A mixed method approach is followed to analyze results. 1200 secondary level students are considered as a sample using stratified random sampling method. All students at first interviewed with the help of 6 questions and after that an essay type test on English writing skill was administered. A network analysis was performed based on the results of written test scores for different components. Performance of writing skill between FGL and NFGL for five different components of English writing skill was done using t-tests. Several issues were found regarding English writing skill. It was found that NFGL secured better position in enjoyment, interest, confidence, student-teacher interaction, use of internet and regular practice. In every component of English writing skill, NFGL students performed significantly better than FGL students. Supervision, proper feedback and guidance is recommended for the improvement of English writing skill for a FGL students.*

Keywords: Network Analysis, English, Writing Skill, FGL, NFGL, Comparison

### INTRODUCTION

India, characterized by its linguistic richness, poses distinct challenges and opportunities for FGLs as they tackle the intricacies of English writing. FGLs, who are often the pioneers in their families to seek higher education, commonly face English as a medium of academic teaching, career progression, and social upliftment. While proficiency in English is increasingly recognized as essential, the shift from their native languages coupled with often minimal exposure to English writing in formal settings can present considerable obstacles. This introduction examines the complex landscape of acquiring English writing skills among FGLs in India, emphasizing the socio-cultural framework,

the specific challenges they encounter, and the necessity for focused interventions to aid their writing development.

The multilingual environment of India significantly influences FGLs' experiences. Numerous students hail from households where English is not the dominant language, and their first encounters with English may restrict them to formal educational environments. This situation can lead to a disconnection between their ability to communicate verbally in English and their effectiveness in writing within academic or professional settings. Moreover, disparities in English teaching methods across various regions and educational institutions can result in uneven writing competencies among FGLs.

Coloquit et al. (2020) investigated the effectiveness of the interactive writing technique in improving writing skills among students and employees, addressing the prevalent issue of low writing proficiency. Focused on English majors, the study assessed writing abilities via pre-tests and post-tests evaluating various writing components. Using a mixed-method design and t-test analysis, the results indicated a notable enhancement in writing scores, with average scores rising from 2.28 (“developing”) to 2.58 (“approaching proficiency”). These findings suggest that the interactive writing technique can successfully enhance basic writing skills, preparing students better for academic and professional challenges.

Zeng (2018) discussed the challenges faced by Chinese college students in English writing, attributed to their weak language foundation, limited ideas, and insufficient practice, resulting in low writing proficiency. It highlights the ongoing concern regarding ineffective writing instruction. The paper aims to explore effective methods for integrating writing into the overall English learning and teaching process, with an emphasis on proposed solutions to writing difficulties and ways to enhance the efficiency of English writing education.

Bhavani and Shankar (2023) investigated problems associated with the writing of elementary students and the factors that impede their writing skills in English. Data was collected from 155 eighth-grade students’ writing samples and interviews with 32 English teachers to determine their perceptions of students’ writing difficulties. The results, analyzed using SPSS software, indicated that most elementary-level students struggle to write grammatically accurate English paragraphs. The main problems stem from a poor command of English regarding syntax, grammar, tenses, and insufficient vocabulary. Additionally, a lack of weak structural organization, writing anxiety, creative ideas, and dependence on their first language contribute to poor writing in English.

The quantitative study by Suryani et al. (2024) assessed the ‘effectiveness of digital technology’, specifically the ‘Storyboard’. That platform, in improving English writing skills among nursing students. It also looked at the students’ perceptions of the platform’s utility. By integrating digital technology with project-based learning, the research demonstrated significant improvements in both knowledge and attitudes.

This mixed-methods research of Kardena et al. (2020) study aimed to investigate students’ perspectives on writing skills and the factors influencing their acquisition of writing abilities. It explored their views on the role of writing, teaching methods, media, strategies, learning resources, and difficulties encountered in writing lessons. Data was collected through questionnaires and interviews from 69 second-year English education students out of a population of 115. The findings indicated that most students recognized the importance of writing skills in English. However, they identified several aspects that hindered their writing learning process, including the media used, teaching strategies, and learning resources. Grammar, vocabulary, cohesion, and first language interference were highlighted as significant problem areas in their writing skills. The research aims to provide insights for educators to develop improved models for teaching writing.

This descriptive quantitative study of Purnamasari et al. (2021) analyzed the English descriptive writing skills of eighth-grade students at SMPN 16 South Tangerang, focusing on five indicators: content, organization, grammar, vocabulary, and mechanics. Data was collected from students’ descriptive writing tests and analyzed using Heaton’s theory. The results indicated that: 43% of students scored average to good in content, 44% scored average to good in organization, 37% scored average to good in grammar, 33% scored very good to excellent in vocabulary, and 27% scored very good to excellent in mechanics. The study also identified difficulties students face when writing descriptively, including idea development,

insufficient knowledge about the subject, and challenges in using simple present tense.

According to Misbah et al. (2017), as English is an international language, mastering English writing poses a significant challenge for second language learners. ESL teachers face difficulties in developing students' writing abilities, especially in elementary schools, where both students and teachers encounter various obstacles in the learning and teaching of writing skills.

Keller et al. (2020) assessed the English writing skills of German and Swiss students in upper secondary schools, finding that over 70% achieved level B2 proficiency before graduation, with Swiss students outperforming German students. The research highlights the need to consider these findings for English writing curricula and teacher education internationally.

Chakrabarty and Saha (2014) opined that second language learners present challenges due to their varying abilities in assimilating learning experiences.

ESL learners often face challenges with vocabulary, grammar, sentence structure, and organization in English (Silva, 2011). They may also struggle with the cognitive demands of writing, such as generating ideas, planning, drafting, and revising (Flower & Hayes, 1981). Many ESL learners have limited exposure to English outside the classroom, which can hinder their writing development (Krashen, 1985). They may also lack opportunities to practice writing in meaningful contexts (Lee, 2017). ESL learners may experience low motivation and high anxiety when writing in English, especially if they have had negative experiences in the past or if they feel their writing is being judged harshly (MacIntyre, 1999). This approach focuses on the stages of writing, such as brainstorming, outlining, drafting, revising, and editing (Raimes, 1991). It emphasizes the importance of planning and revision, and it provides learners with opportunities to develop their writing skills through guided practice. This approach focuses on the different types of writing, such as essays, reports, and letters (Hyland, 2004). It helps learners to

understand the conventions of different genres and to develop the skills needed to write effectively in each genre. This approach involves learners working together to write a text (Storch, 2005). It can help learners to develop their writing skills by sharing ideas, providing feedback, and learning from each other. This approach uses technology to support writing instruction (Warschauer, 2003). It can include tools such as word processors, grammar checkers, and online writing platforms. Formative assessment is used to monitor learners' progress and to provide feedback that can help them to improve their writing (Brown & Abeywickrama, 2010). It can include activities such as peer feedback, self-assessment, and teacher conferences. This type of assessment is used to evaluate learners' overall writing ability (Brown & Abeywickrama, 2010). It can include activities such as essays, reports, and exams. Feedback is an essential part of the writing process (Hattie & Timperley, 2007). It should be specific, constructive, and focused on the learners' strengths and weaknesses.

Existing research highlights several obstacles FGLs encounter. A significant challenge is the lack of exposure to academic discourse and writing conventions within their home environments (Bourdieu & Passeron, 1990). Unlike their non-FGL peers, they may not have access to family members who can model or provide feedback on academic writing (Lohfink & Paulsen, 2005). This can lead to a sense of "cultural mismatch" between their home language practices and the expectations of academic writing (Yosso, 2005). Furthermore, FGLs may experience anxiety and a lack of confidence in their writing abilities (Crisp & Nora, 2009). This can be exacerbated by feelings of imposter syndrome, where they doubt their belonging in academic spaces and fear being perceived as inadequate (Clance & Imes, 1978). These psychological factors can hinder their willingness to engage in writing activities and seek help when needed. Several studies emphasize the importance of explicit instruction in academic writing conventions for FGLs (Flower & Hayes,

1981). This includes focusing on sentence structure, paragraph development, argumentation, and citation practices. Scaffolding writing assignments, breaking down complex tasks into smaller, manageable steps, can also be beneficial (Vygotsky, 1978). Collaborative learning activities, such as 'peer review' and 'group writing projects', can provide FGLs with 'opportunities to learn' from their peers and receive constructive feedback (Bruffee, 1995). Institutions play a vital role in supporting the writing development of FGLs. Writing centers, tutoring services, and supplemental instruction programs can provide individualized support and guidance (Sheridan et al., 2010). Mentoring programs that connect FGLs with faculty or peer mentors can also be valuable in navigating the complexities of academic writing. Moreover, teaching where culturally responsive practices are included, that acknowledge and value the diverse 'linguistic and cultural backgrounds' of FGLs are essential (Gay, 2018). Recognizing and building upon their existing strengths and knowledge can empower FGLs to succeed in their academic writing endeavors.

Hevey (2018) discussed network analysis very interestingly as a tutorial. Not every node in a network holds the same significance in shaping its structure; 'centrality indices' offer a glimpse into the relative importance of a node in relation to other nodes within the network (Freeman, 1978; Borgatti, 2005). For instance, a central symptom possesses numerous connections within a network, allowing its activity to propagate throughout the symptoms network, whereas a peripheral symptom is located on the edges of the network, with fewer connections, resulting in less influence over the network. Various 'centrality indices' yield insights into different aspects of centrality. The indices may be presented as 'standardized z-score' indices to illustrate the relative significance of the nodes, and evaluating centrality necessitates watchful consideration of the various dimensions collectively. These indices are derived from the connection patterns in which the node in question is

involved and can be utilized to model or predict multiple network processes, such as the volume of flow passing through a node or the network's resilience to the removal of specific nodes (Borgatti, 2005). The most frequently analyzed facets of centrality include the following. Degree of centrality is characterized by the number of connections associated with the node in question (Freeman, 1978). The direct connections of a node to other nodes are determined by summing the 'weighted number' and intensity of all connections a specific node has in relation to other nodes. While degree offers insights into connection quantity, strength can furnish additional context regarding the significance of that node; for instance, a node exhibiting numerous 'weak connections' (high degree) may not be as 'central to the network' as one with fewer but 'stronger connections'. Nevertheless, as pointed out by Opsahl et al. (2010), focusing solely on 'node strength' as a measure of importance can be misleading, as it does not consider the number of 'other nodes' it connects to. Thus, it is crucial to consider both 'degree' and 'strength' as indicators of a node's involvement level within its surrounding network when assessing a node's centrality. The 'closeness index' measures the connections a node has in relation to all other nodes in the network by accounting for 'indirect links' stemming from that node. A high closeness index signifies a short average distance from a specific node to all other nodes; a central node with a high closeness will swiftly experience changes occurring in 'any segment of the network' and can also rapidly induce changes in various parts of the network (Borgatti, 2005). The 'betweenness index' reveals how essential a node is within the 'average pathway' connecting other node pairs. A node can be pivotal in the network if it frequently acts as a link along the 'shortest path' between two other nodes, playing a significant role in the connections that exist between these other nodes (Saramäki et al., 2007; Watts & Strogatz, 1998).

Clustering refers to the degree to which a node belongs to a cluster of nodes, as estimated by Saramäki et al. (2007). The

local clustering coefficient  $C$  represents the ratio of existing edges among the neighbors of a specific node to the total number of potential edges among those neighbors (Bullmore & Sporns, 2009). This coefficient sheds light on the ‘local redundancy’ of a node, indicating whether the removal of that node affects the ability of neighboring nodes to influence each other. An overall ‘global clustering coefficient’, also known as ‘transitivity’, can be measured for the entire network in both ‘undirected’ and ‘directed’ settings. Additionally, the entire network may consist of communities, which are clusters of nodes that are closely interconnected internally while having weak connections with nodes outside their group. Identifying communities requires researchers to go beyond simply looking at how nodes are placed visually; they must analyze the underlying patterns using formal statistical methods. Fried (2016) outlines several techniques to aid in community detection. As ‘latent variable models’ and ‘network models’ hold mathematical equivalence, one way to determine the number of communities is by analyzing the ‘eigenvalues’ of components in the data through ‘exploratory factor analysis’, where factor loadings reveal the affiliation of nodes to specific communities. More advanced techniques include the spinglass algorithm, which, while limited by its tendency to yield varied results with each run and its restriction allowing nodes to belong to only one ‘community’, may not reflect the reality of nodes belonging to multiple communities. The walktrap algorithm tends to produce more stable results upon repetition but similarly confines nodes to a single ‘community’. Conversely, the ‘Clique Percolation Method (CPM)’ permits nodes to be associated with more than one ‘community’ (Blanken et al., 2018). A “Barrat clustering plot” in network analysis is a graphical representation that shows the clustering coefficient for every node within a network, using the “Barrat method”. This approach is tailored to consider weighted connections, meaning it takes into account the strength of relationships between nodes when calculating the clustering coefficient. The

term “Onnela clustering algorithm” in network analysis refers to a technique for finding clusters within a network, especially when working with weighted connections. This technique is frequently used in financial networks, where the weights represent the correlation strengths between various assets. It is mainly linked to a particular weighted clustering coefficient calculation of Jari Onnela, which considers the strength of connections when calculating the degree of connectivity between nodes within a cluster. Because of the high clustering coefficient of the ‘Watts-Strogatz’ network, cliques—small groups of nodes that are tightly related to one another—tend to emerge. Hub nodes, or nodes of high relative degree, become more prevalent as  $\beta$  rises toward its maximum value of 1.0. Since it measures the shortest path to its neighbors, the ‘Watts-Strogatz’ measure is 0 for every node. Since the direct paths are also the shortest routes between nodes in this correlation network, all of the values are equal. An algorithm for two-dimensional cluster analysis of component groups, originally from Zhang et al., (2004), was introduced in this study. The algorithm composes of three procedures, i.e., calculation of distance measures, randomization statistic test, and ordered clustering of components.

Present work is a comparison between first generation learner and non-first generation learner regarding the English writing skill of the secondary level students of West Bengal, India. Network analysis is done for the comparison. Independent sample t-tests are also administered.

Objectives of this study were:

1. To study the attitude towards English writing qualitatively.
2. To compare the attitude towards English writing between FGL and NFGL students.
3. To analyze the network among different components of English writing skill.
4. To compare the network among different components of English writing skill between FGL and NFGL students.

5. To compare the achievement of English writing skill between FGL and NFGL students with respect to different components English writing skill.

To study the objective 5, following null hypotheses were framed:

1. H<sub>01</sub>: 'There was no statistically significant difference between FGL and NFGL students with respect to Content component of English writing skill'.
2. H<sub>02</sub>: 'There was no statistically significant difference between FGL and NFGL students with respect to Organization component of English writing skill'.
3. H<sub>03</sub>: 'There was no statistically significant difference between FGL and NFGL students with respect to Vocabulary component of English writing skill'.
4. H<sub>04</sub>: 'There was no statistically significant difference between FGL and NFGL students with respect to Grammar component of English writing skill'.
5. H<sub>05</sub>: 'There was no statistically significant difference between FGL and NFGL students with respect to Mechanics component of English writing skill'.

## METHOD

In order to compare the English writing abilities and attitudes of First-Generation Learners (FGL) and Non-First-Generation Learners (NFGL), the study used a mixed-method approach. The methodology combined advanced network analysis, quantitative performance testing, and qualitative interviews.

### Sampling and Participants

Population: Students enrolled in the West Bengal Board of Secondary Education (WBBSE) at the Bengali medium secondary level were the focus of the study.

Sample Size: The study involved 1,200 students in total.

Sampling Method: Stratified random sampling was used to choose the participants.

### Equipment and Information Gathering

Two main stages of data collection were carried out:

Qualitative Interview: In order to gauge students' attitudes toward English writing, six particular questions were first asked of them. These questions included enjoyment, interest, confidence, teacher interaction, internet use, and regular practice.

Writing Assessment: To gauge English writing ability, an essay-style test was given. Five crucial dimensions; content, organization, vocabulary, grammar, and mechanics were used to assess each student's performance.

Scoring Rubric: Each dimension was given a score between 0 and 4, with 0 denoting no credit and 4 denoting full credit.

### Methods of Data Analysis

To interpret the data, the researchers used a number of statistical tools and techniques:

Comparative Analysis: To ascertain whether there were any significant differences between the FGL and NFGL groups' performance in the five writing components, independent sample t-tests were run using SPSS 26.

Network Analysis: Using JASP 0.19.3, this analysis investigated the coordination and structural relationships among the various writing skill components. This comprised:

Weight matrices: To see how strongly components are associated (edges).

Centrality Indices: To determine the relative significance of particular network components, measures of "Betweenness," "Closeness," "Strength," and "Expected Influence" were computed.

Clustering Algorithms: To identify patterns of local redundancy and community formation within the writing components, four different algorithms were employed: Barrat, Onnela, Watts-Strogatz (WS), and Zhang.

**RESULT AND DISCUSSION**

**Table 1:** Interview results of students categorized into FGL and NFGL

Sl No	Question			FGL	NFGL
1	Do you enjoy your English writing classes?	No	Count	41	9
			%	8.8%	1.2%
		TSE	Count	272	233
			%	58.6%	31.7%
		Yes	Count	151	494
			%	32.5%	67.1%
2	Are the writing activities in the text book interesting?	No	Count	48	18
			%	10.3%	2.4%
		TSE	Count	273	256
			%	58.8%	34.8%
		Yes	Count	143	462
			%	30.8%	62.8%
3	Do you feel confident while doing writing activities?	No	Count	166	54
			%	35.8%	7.3%
		TSE	Count	254	437
			%	54.7%	59.4%
		Yes	Count	44	245
			%	9.5%	33.3%
4	Do you seek help from teachers for any doubts in writing activity?	No	Count	47	19
			%	10.1%	2.6%
		TSE	Count	225	247
			%	48.5%	33.6%
		Yes	Count	192	470
			%	41.4%	63.9%
5	Do you take the aid of internet while doing writing task?	No	Count	179	155
			%	38.6%	21.1%
		TSE	Count	229	343
			%	49.4%	46.6%
		Yes	Count	56	238
			%	12.1%	32.3%

of

Five questions are asked with three options i.e., Yes, To some extent and No. Following observations may be pointed out:

- Regarding enjoyment of English writing majority of FGL had moderate level of enjoyment but majority of NFGL candidates had high level of enjoyment.
- Regarding interest in writing activities of textbook majority of the students of FGL have moderate level of interest but majority of the NFGL students had high level of interest.
- Regarding confidence more than one third of FGL had low confidence more than half of the FGL had medium level

confidence and less than one-tenth of the FGL had high confidence in writing. In case of NFGL, very less number of students had low level of confidence but almost two-fifth of the students had medium level and one-third of the students had high level of confidence.

- Regarding seeking help from the teacher majority of the students for both FGL and NFGL had taken help from the Teachers for their writing activities.
- Regarding the use of internet for writing activities, FGL had taken less help from it than their NFGL counterpart.

Table 2: Interview results on practice of students categorized into FGL and NFGL

Sl No	Question		FGL	NFGL	
6	Do you regularly practice writing in English?	No	Count	203	255
			%	43.8%	34.6%
		Yes	Count	261	481
			%	56.2%	65.4%

Table 3: Weights Matrices for FGL and NFGL

Variable	FGL					NFGL				
	C	O	V	G	M	C	O	V	G	M
C	0.000	0.562	0.115	0.190	0.209	0.000	0.587	0.089	0.057	0.322
O		0.000	0.322	0.000	0.120		0.000	0.420	0.000	0.058
V			0.000	0.374	0.041			0.000	0.392	0.000
G				0.000	0.512				0.000	0.509
M					0.000					0.000

Regular practice of English writing educational for mostly in writing skill it is found that FDL practiced less than their NFDL counterpart. Regular practice motivates students for their success in writing skill. Improvement in each component of writing skill depends on regular practice; their thoughts and compact presentation. Regular practice improves their confidence. This may be rooted in parental care of the students.

From weight matrices Table 3 and network plots (Figure 1 and 2), following observations may be considered:

- content component is strongly associated with organization component and moderately associated with mechanics component.
- For both the two groups have students FGL and NFGL, 5 edges are strongly or moderately associated with high values or moderate values

- Each component should be associated with four edges with four other components. So, there should be 10 edges in each group and all 10 edges should be strongly associated with each other but in present situation it is found that only five edges are strongly associated.

So, there is lack of coordination between teaching learning on English writing skill.

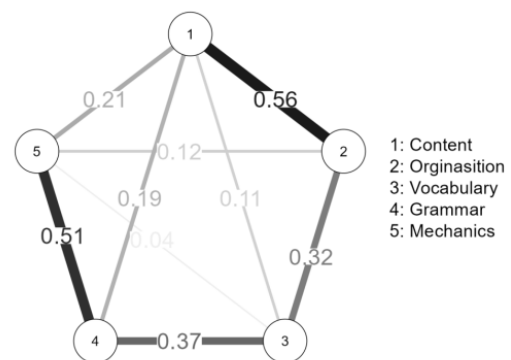


Figure1: Network Plots for FGL

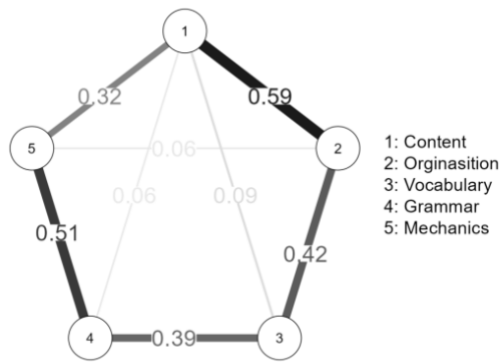


Figure 2: Network Plots for NFGL

From weight matrices Table 3 and network plots (Figure 1 and 2), following observations may be considered:

- content component is strongly associated with organization

component and moderately associated with mechanics component.

- For both the two groups have students FGL and NFGL, 5 edges are strongly or moderately associated with high values or moderate values
- Each component should be associated with four edges with four other components. So, there should be 10 edges in each group and all 10 edges should be strongly associated with each other but in present situation it is found that only five edges are strongly associated.

So, there is lack of coordination between teaching learning on English writing skill.

Table 4: 'Centrality measures' for different components of writing skill

Variable	FGL				NFGL			
	'Betweenness'	'Closeness'	'Strength'	'Expected Influence'	'Betweenness'	'Closeness'	'Strength'	'Expected Influence'
Content	0.447	-0.181	0.926	0.926	0.000	0.174	0.974	0.974
Organization	0.447	-0.635	0.244	0.244	0.000	0.529	1.104	1.104
Vocabulary	0.447	1.204	-1.184	-1.184	0.000	1.290	-0.872	-0.872
Grammar	0.447	0.815	0.924	0.924	0.000	-1.134	-0.187	-0.187
Mechanics	-1.789	-1.204	-0.910	-0.910	0.000	-0.860	-1.019	-1.019

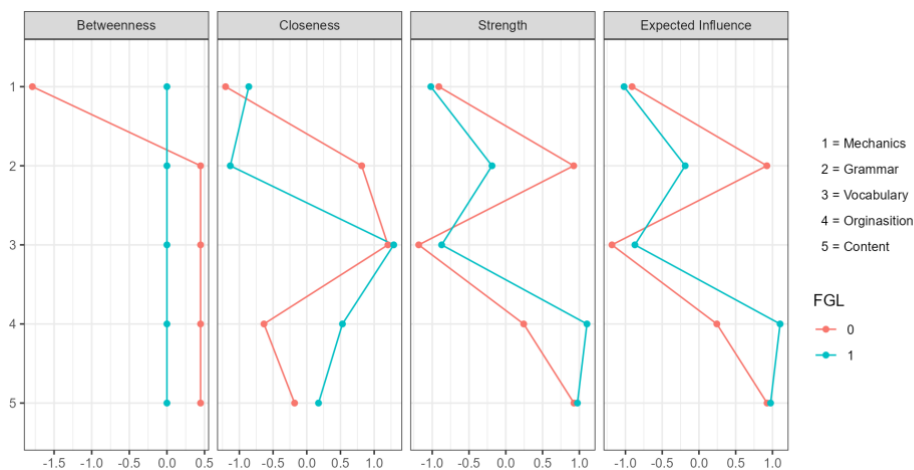


Figure 3: Comparison between FGL and NFGL according to 'centrality indices' for network

By listing the values in quality, following table (5) is constructed.

**Table 5:** Comparison of quality between FGL and NFGL

		Content	Organisation	Vocabulary	Grammar	Mechanics
'Betweenness'	FGL	'Mediocre'	'Mediocre'	'Mediocre'	'Mediocre'	'Very Low'
	NFGL	'Low'	'Low'	'Low'	'Low'	'Low'
'Closeness'	FGL	'Low'	'Low'	'High'	'Mediocre'	'Very low'
	NFGL	'Low'	'Mediocre'	'High'	'Very Low'	'Low'
'Strength'	FGL	'High'	'Very High'	'Very Low'	'High'	'Low'
	NFGL	'High'	'Low'	'Low'	'Low'	'Low'
'Expected Influence'	FGL	'High'	'Low'	'Very Low'	'High'	'Low'
	NFGL	'High'	'High'	'Low'	'Low'	'Low'

In terms of betweenness, for FGL, content, organisation, vocabulary and grammar had mediocre value but mechanics had very low value. It is indicated that content, organisation, vocabulary and grammar had some bridging contribution in writing skill except mechanics component. No such bridging contribution is found for NFGL students regarding writing skill.

In terms of closeness, for both FGL and NFGL students, high connections of vocabulary with other components of writing skill are found. Other components (content, organisation, mechanics and grammar) of writing skill had mediocre, low and very low closeness. In this regard, vocabulary played an important role in the network and its activation has the strongest influence the other nodes in the network.

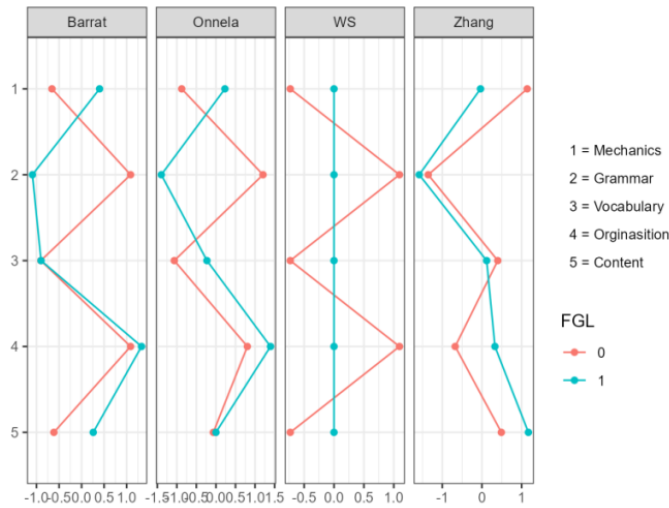
In terms of strength, for both FGL and NFGL, content has played vital role for writing skill. Also, organisation and

grammar components played an important role in the network for FGL students. But, for NFGL students no other components played an important role in the network and its activation had the no such influence on the other nodes in the network.

In network analysis within JASP, an "expected influence plot" is a visual representation of the predicted degree of influence that a specific node (variable) is expected to have within the network, taking into account its connections (betweenness and closeness) and the strength of those connections to other nodes. In other words, it essentially illustrates which variables are most likely to have an impact on the overall structure of the network. For FGL students, it was found that content and grammar had overall high influence on their writing skill but for NFGL students, content and organization had overall high influence on their writing skill.

**Table 6:** Comparison between FGL and NFGL according to 'clustering measures' for network

Variable	FGL			NFGL				
	'Barrat'	'Onnela'	'WS'	'Zhang'	'Barrat'	'Onnela'	'WS'	'Zhang'
Content	-0.615	-0.067	-0.730	0.490	0.259	1.401x10 <sup>-15</sup>	0.000	1.172
Orginasion	1.089	0.803	1.095	-0.676	1.332	1.395	0.000	0.328
Vocabulary	-0.904	-1.065	-0.730	0.399	-0.899	-0.230	0.000	0.119
Grammar	1.089	1.204	1.095	-1.356	-1.091	-1.395	0.000	-1.582
Mechanics	-0.658	-0.876	-0.730	1.142	0.400	0.230	0.000	-0.036



**Figure 4:** Clustering plots for different components of writing skill

Clustering plots for different components of writing skill are represented by Figure 4. It is found that there was no similarity for different components for different types of clustering algorithm. Some points are listed below:

- For content, low values are shown by 'Barrat clustering plot', 'Onnela clustering plot' and 'Watts-Strogatz clustering plot' for FGL and NFGL students but high value is shown by NFGL in 'Zhang clustering plot'.
- For organisation, high values are shown by 'Barrat clustering plot', 'Onnela clustering plot' and 'Watts-Strogatz clustering plot' for FGL and NFGL students but low value is shown by NFGL in 'Zhang clustering plot'.
- For vocabulary, low values are shown by all the clustering plots.
- For grammar, low values are shown by NFGL students for all the clustering plots but high values are shown by FGL students for the 'Barrat clustering plot', 'Onnela clustering plot' and 'Watts-Strogatz clustering plot'. In case of 'Zhang clustering plot' for FGL students, low value is observed.
- For mechanics, all the values were low except 'Zhang clustering plot' for FGL students.

The above-mentioned facts showed that there are several disparities in cluster formation among the components of writing skill.

**Table 7:** Group statistics for different components of writing skill

Variables	Category	N	Mean	SD	SE <sub>M</sub>
Content	FGL	464	2.45	.914	.042
	NFGL	736	3.32	.750	.028
Organization	FGL	464	2.19	1.020	.047
	NFGL	736	3.16	.851	.031
Vocabulary	FGL	464	1.93	1.047	.049
	NFGL	736	2.98	.929	.034
Grammar	FGL	464	1.83	1.028	.048
	NFGL	736	2.85	.941	.035
Mechanics	FGL	464	1.73	.977	.045
	NFGL	736	2.69	.891	.033

FGL=First-Generation Learner, NFGL=Non-First-Generation Learner

**Table 8:** Results of t-test for different components of writing skill

Variables	t	df	'Mean Difference'	'Std. Error Difference'	'Level of Significance'
Content	-17.955	1198	-.870	.048	.001
Organization	-17.923	1198	-.978	.055	.001
Vocabulary	-18.145	1198	-1.050	.058	.001
Grammar	-17.782	1198	-1.028	.058	.001
Mechanics	-17.519	1198	-.961	.055	.001

From the results of t-tests it might be concluded that all the null hypotheses  $H_{01}$ ,  $H_{02}$ ,  $H_{03}$ ,  $H_{04}$  and  $H_{05}$  are rejected. In every component of writing skill FGL had a significantly lower performance than NFGL students. This might be due to parental ignorance and poor socio-economic conditions of the family. These students often come from homes with fewer educational resources, which can hinder their early literacy development. Their parents may have less time to help with schoolwork due to work schedules, language barriers, or a lack of familiarity with the educational system. Schools in lower-income areas may have fewer resources and less-qualified instructors, impacting the quality of education. Additionally, first-generation students may not have family members who have attended school, limiting their access to guidance and support. They may also feel excluded from school, particularly if their cultural background differs from their classmates. Increased stress and anxiety from financial difficulties and family obligations can negatively impact academic performance.

### CONCLUSION

The study demonstrates that although all students follow a similar cognitive path to writing proficiency, there is a significant “attainment gap” between First-Generation Learners (FGL) and Non-First-Generation Learners (NFGL) due to socioeconomic and educational starting points.

#### 1. Gaps in Systemic Performance

All five of the essential elements of English writing—content, organization, vocabulary, grammar, and mechanics—show a notable and persistent discrepancy. NFGL students performed better than FGL students in every metric, demonstrating that students with a family history of education have a clear advantage when negotiating the challenges of learning a second language.

#### 2. Learning Psychology

There are behavioural and psychological differences in addition to academic ones. Students from NFGL demonstrated greater levels of:

- **Affective Engagement:** Increased enthusiasm and delight in educational activities.
- **Self-Efficacy:** Considerably greater assurance when completing writing assignments.
- **Persistence:** A more methodical approach to consistent practice, which is essential for learning new skills.

#### 3. Insights from Structural Analysis

The most profound understanding of the “mechanics” of this learning gap is offered by the network analysis:

- **Pathway Equivalency:** The FGL and NFGL groups exhibit comparable bonding between writing components, indicating that both groups have the same “internal roadmap” for learning to write in English.
- **Vocabulary as the Anchor:** For both groups, vocabulary serves as the most influential node (highest closeness), which means that a student’s lexicon serves as the main catalyst that activates their capacity to arrange ideas and use grammar.

- The “Unconnected” Curriculum: For both groups, only 50% of the potential connections between writing components were strong. This indicates a systemic failure in teaching-learning coordination where components are taught in isolation rather than as an integrated skill.

#### 4. Root Causes and Barriers

The lower performance of FGL students is not a reflection of innate ability but a result of “Cultural Mismatch” and “Parental Ignorance”. FGL students often face:

- Limited access to educational resources and role models at home.
- “Imposter Syndrome” and feelings of exclusion within the academic environment.
- Heightened stress from financial obligations that competes with academic focus.

#### Final Synthesis

The study highlights a significant disparity in English writing proficiency between First-Generation Learners (FGL) and non-First-Generation Learners (NFGL) in West Bengal. Data analysis confirms that NFGL students consistently outperform FGL students across all five key components of writing: content, organization, vocabulary, grammar, and mechanics. This performance gap is rooted in several socio-educational factors; NFGL students report higher levels of enjoyment, interest, and confidence, alongside more frequent teacher interaction and regular practice. A central finding of the network analysis identifies vocabulary as the most influential “node” for both groups. This suggests that a student’s lexicon acts as a primary catalyst, directly impacting their ability to master other writing skills. For FGL students, who often lack exposure to academic discourse at home, the transition from their native language to English writing remains a substantial obstacle. Ultimately, all five null hypotheses regarding equal achievement were rejected, emphasizing the need for targeted interventions. To bridge this gap, the study recommends “scaffolding” assignments, providing consistent feedback, and

increasing access to digital resources to foster a more equitable learning environment.

To bridge the performance gap identified in the study, recommendations must move beyond traditional classroom instruction to address the systemic, psychological, and structural barriers faced by First-Generation Learners (FGL).

#### 1. Structural Curricular Integration

The study revealed a “lack of coordination” in teaching, where only 50% of the potential connections between writing components are strongly established.

- Integrated Skill Building: Shift from teaching Content, Grammar, and Vocabulary in isolation to an integrated “whole-language” approach that mirrors the natural cognitive pathways of writing.
- Vocabulary-Centric Instruction: Since Vocabulary has the highest “closeness” index and acts as the primary engine for other skills, it should be the foundational hub of every writing module.

#### 2. Targeted Scaffolding for FGL Students

Because FGL students lack the “academic discourse” and feedback loops at home that NFGL students enjoy, the school must provide this missing infrastructure.

- Explicit Strategy Instruction: Provide direct instruction in sentence structure, paragraph development, and citation to compensate for the lack of home-based modelling.
- Task Decomposition: Use “scaffolding” to break complex writing assignments into smaller, manageable milestones to reduce writing anxiety and build self-efficacy.
- Regular Feedback Loops: Implement a system of close supervision and continuous formative feedback, as FGL students are significantly less likely to have access to guided practice outside of school.

### 3. Psychosocial and Cultural Interventions

“Cultural mismatch” and “imposter syndrome” are the main causes of the performance gap.

- Culturally Responsive Pedagogy: Use instructional strategies that respect and recognize the varied linguistic backgrounds of Bengali-medium students, using their native tongue as a tool rather than a barrier.
- Mentorship and Role Modeling: To help FGL students overcome feelings of academic exclusion, pair them with faculty members or peer mentors who were also first-generation learners.
- Parental Engagement Literacy: Schools should empower parents with easy ways to support literacy, even if they have limited education or language barriers, rather than merely “involving” them.

### 4. Technological and Community Support

The achievement gap is exacerbated by differences in resource access and internet usage.

- Digital Literacy Training: Make sure FGL students can use technology as efficiently as their NFGL counterparts by offering specialized instruction on how to use the internet as a writing task aid.
- Holistic Support Services: Make counselling available to address the “increased stress and anxiety” brought on by family responsibilities and financial hardships that impair academic performance.

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