



Perceptual Assessment of Coherence, Fluency, Voice Modulation, and Language Modulation in Public Speaking Performance

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Abstract

Public speaking is a highly sought-after skill in the context of communication. Public speaking skills are taught academically to students. The purpose of this study is to analyze students' perceptual assessments of the contribution of coherence, fluency, vocal quality, and language proficiency in shaping public speaking performance. The research method used in this study is quantitative. The research subjects were four classes of speech courses for students of the Javanese Language Education Study Program, Yogyakarta State University. The instruments used were observation sheets and questionnaires. The instruments focused on four aspects of assessment, namely coherence, fluency, voice control, and language control. Data was collected through speech practice observation and questionnaire completion. The instruments were validated using intrarater techniques with peer discussions with five lecturers teaching speech courses, observation persistence, and extended participation. The data was analyzed using descriptive statistics and elaborated qualitatively. The results show that (1) all four variables—voice control, language control, fluency, and coherence—have a positive and significant contribution to speech quality; (2) coherence contributes 1.87, which is sufficient; fluency contributes 1.93, which is sufficient; voice training contributes 3.40, which is very high; and language training contributes 2.80, which is high; (3) voice control and language control are the dominant factors that determine students' public speaking skills; and (4) in terms of order, voice control (very high), language control (high), fluency and coherence (sufficient).

Keywords: Coherence; Fluency; Voice Control; Language Control; Public Speaking

Introduction

Public speaking is an essential oral communication skill in various social, professional, and academic contexts. The ability to speak in public is not merely about conveying a message, but also about influencing the audience's perception, building credibility, and achieving specific communication goals, such as persuading, informing, or inspiring the audience. Research shows that public speaking is an

important foundation in the development of individual communicative competence in the modern era, including in the world of education, organizations, and professions (Rahmadhania et al., 2025). In short, public speaking skills are needed in various communication contexts.

Public speaking skills are a very important communication competency in academic, professional, and social contexts. These skills not only help a person convey messages effectively, but also shape the audience's perception of the speaker's credibility, logical thinking, and strength of argument (Rahmadhania et al., 2025). Empirical research even shows that improved public speaking skills correlate positively with self-confidence, academic achievement, and professional career opportunities (public speaker, leader, orator) in various communication settings (Al Fahmi et al., 2025).

Dalam berbagai bidang, seseorang yang memiliki kemampuan public speaking yang baik memperoleh kedudukan yang berpengaruh.

Keefektifan public speaking tidak terjadi secara otomatis, melainkan melibatkan (Dwijonagoro & Suparno, 2019) sejumlah komponen keterampilan yang saling terintegrasi. Empiris dan kajian literatur mengidentifikasi empat faktor kunci yang secara signifikan memengaruhi kualitas kinerja public speaking — yaitu kualitas vokal, penguasaan bahasa, kefasihan bicara (fluency), dan organisasi logis pesan. Evidence yang ada menunjukkan bahwa masing-masing faktor ini memberikan kontribusi teoretis dan praktis terhadap performa komunikatif seseorang ketika berbicara di depan umum.

First, the logical sequence or organization of messages reflects a speaker's ability to arrange ideas in a coherent and logical manner—from introduction to conclusion—so that the audience can follow the train of thought without confusion. This clear structure is important for building the credibility of the argument and maximizing audience understanding. Communication rhetoric research also confirms that the coherence of a speech's structure correlates with the audience's perception of the quality of the presentation and the speaker's argumentation skills (Dwijonagoro & Suparno, 2019). Good logical organization makes the message easy to understand and convey to the audience, or in other words, makes it an acceptable message.

Second, fluency, or the ability to speak smoothly without obstacles such as unnecessary repetition or long pauses, is a key indicator of effective speaking skills in oral communication. Most studies of fluency in the context of a second language show that fluent speech is closely related to speech regularity, anxiety levels, and cognitive skills in processing information simultaneously (Setyawan, 2026; Wang et al., 2024), self-confidence, and good material preparation.

Third, voice training or vocal quality—including aspects of articulation, intonation, tempo, resonance, and voice modulation—is an important element in effective speech delivery. Clear and controlled voice quality improves the readability of the message and the audience's perception of the speaker's professionalism. Experimental studies show that vocal quality affects listeners' information processing and memory of the message, especially when the vocal signal is clear and not distorted by environmental noise (signal-to-noise effects) (Schiller, 2023; Shen, 2023). Vocal quality includes auditory aesthetics that can be appealing to audiences.

Fourth, language skills or language proficiency are closely related to linguistic competence, which includes vocabulary, grammatical structure, and the use of expressions and phrases that are appropriate to the context. Strong language skills support speakers in constructing appropriate and persuasive narratives, while minimizing lexical errors that can interfere with audience comprehension. Language education research emphasizes the importance of vocabulary and grammar mastery in effective speaking, and that improved linguistic competence correlates with better speaking performance (Dwijonagoro, S., Prastowo, G., & Rubiyanto, 2024). Mastery of language and beautiful literature can be a medium for captivating an audience.

These four factors are interdependent: vocal quality without fluency can give the impression of disjointedness; language proficiency without logical organization of the message can result in a speech that is linguistically impressive but not communicatively effective; similarly, fluency without logical structure can cause the message to sound smooth but meaningless. Therefore, a scientific understanding of the relative contributions and interactions of these four factors is essential in designing public speaking performance evaluation models, developing training programs, and strengthening evidence-based communication training curricula.

A careful empirical study of audience perceptions of these four factors helps identify which components most significantly influence public speaking performance in general—in addition to providing a scientific basis for more targeted skill development strategies for novice speakers, professionals, and advanced orators alike.

The novelty of this study offers a public speaking performance evaluation model based on perceptual assessment that simultaneously integrates four main factors, namely vocal quality, language proficiency, fluency, and logical organization. Most previous studies have examined these factors partially, thus failing to map the relative contributions of each variable in a unified analytical framework. The novelty of this study lies in the empirical modeling of audience perception as a key indicator of public communication effectiveness. This study also reveals the dominant factors and patterns of inter-variable relationships in shaping public speaking performance. In addition, this study enriches the international literature by providing empirical data from non-Western contexts, which are still underrepresented.

The impact of this research contributes to strengthening communication and applied linguistics studies through the development of a perception-based and empirically tested public speaking evaluation model. These findings can be used to design more objective and evidence-based assessment instruments, curricula, and public speaking training. In practical terms, public speakers, educators, and communication trainers can prioritize the skill factors that most influence audience perception. This research also has the potential to support the development of competency standards and professional certification in public communication. The long-term impact is expected to improve the quality of professional communication and the competitiveness of human resources.

Based on this background, the problem formulated is how students perceive the contribution of quality coherence, fluency, voice control, and language control to public speaking performance?

Literature Review

Theoretical Study: Public Speaking

Public speaking refers to the ability and process of verbal communication carried out by a person in front of an audience with a specific purpose, such as providing information, influencing opinions, inspiring, motivating, or entertaining (Ida Ayu Oka Purnami, 2024). In the context of modern communication, public speaking is understood as a strategic skill that involves persuasion and effective audience interaction, so that it does not only focus on delivering messages, but also on achieving the desired communication goals (Waruwu, 2024). Public speaking is also an important part of effective communication, where messages must be conveyed clearly, coherently, and persuasively so that they can be accepted and responded to positively by the audience (public speaking is not only giving speeches but also conveying ideas in various discussion forums, seminars, and professional presentations) (Girsang, 2018; Rahmayanti et al., 2023).

The success of public speaking is marked by several key indicators. First, the ability to organize messages systematically so that the audience can understand the structure and content of the speech without confusion. Second, delivery or presentation, which includes voice control, intonation, speaking speed, and appropriate use of body language, all of which contribute to the effectiveness of message delivery (Waruwu, 2024). Third, the speaker's ability to recognize the audience and adjust their communication style to build a strong interactive relationship, so that the message is not only heard but also understood and internalized by the audience (Rahmayanti et al., 2023). Fourth, psychological factors such as confidence, managing speaking anxiety, and empathy towards the audience also play an important role in determining the extent to which messages can be received effectively (Amalia, 2025; Deha, 2025).

In addition, literature also broadens the understanding of public speaking into various forms and contexts. One aspect that is often discussed is the types of public speaking, such as informative speaking (speaking to convey clear information or knowledge), persuasive speaking (speaking to influence the attitudes or behavior of the audience), ceremonial speaking (symbolic speeches such as greetings or awards), and entertaining speaking (speaking to entertain the audience) (Ida Ayu Oka Purnami, 2024). The choice of type is usually tailored to the communication objectives to be achieved and the context of the audience, so professional speakers need to be flexible in determining the style and content of their speeches.

Successful public speaking performance does not only depend on mastery of vocal techniques or rhetoric, but also on the integration of cognitive, emotional, and social context aspects. Empirical research shows that public speaking training or structured training can improve an individual's competence in delivering messages, influencing audiences, and building greater self-confidence (Amalia, 2025; Deha, 2025; Waruwu, 2024). Furthermore, these skills are considered essential soft skills in the professional and academic world, which, if mastered well, can strengthen an individual's competitiveness in their work environment and social network (Rahmayanti et al., 2023).

Thus, public speaking is not merely the act of speaking in public, but rather a strategic communication process that combines message preparation, mastery of delivery techniques, understanding of the audience, and psychological self-management in order to achieve communication goals effectively and persuasively. Therefore, the study of public speaking theory and practice needs to consider all of these components so that a speaker's performance can be assessed scientifically and professionally.

Factors that influence public speaking

Coherence in public speaking refers to the integration of ideas, clarity of relationships between ideas, and consistency of argumentation so that the audience is able to follow the message logically and systematically. Coherence plays a direct role in improving the comprehensibility of speeches and the quality of academic and professional communication. Research shows that a coherent discourse structure significantly influences listeners' assessment of the clarity of the message and the competence of the speaker, even when the speaker's accent and language background are controlled (Tsunemoto & Trofimovich, 2024). Another study confirms that good organization of ideas helps the audience build a mental representation of the message, thereby increasing information retention and persuasion effectiveness (Crossley et al., 2019). Thus, coherence is an important indicator in evaluating the quality of public speaking performance.

Fluency describes the speaker's ability to maintain a stable flow of speech, with minimal unnecessary pauses, repetitions, and speech production disruptions. Fluency reflects not only language automation, but also the integration of cognitive and affective processes in speech production. Empirical research has shown that fluency levels are strongly related to the audience's perception of the speaker's

competence and credibility (Wang et al., 2024). In addition, Segalowitz (2016) explains that fluency serves as an indicator of communication competence maturity because it reflects the efficiency of real-time language processing. In the context of public speaking, fluency contributes to the audience's comfort in receiving messages and reinforces the speaker's professionalism.

Vocal quality encompasses aspects of articulation, pitch, intensity, resonance, and breath control that affect the clarity and range of a speaker's voice. Optimal voice quality improves speech intelligibility and reduces the cognitive load on listeners in processing messages. Acoustic research shows that suboptimal vocal quality, such as a voice that is too breathy or unstable, reduces speech intelligibility and increases listening effort, especially in noisy conditions (Shen, 2023). Other studies confirm that voice characteristics influence the audience's perception of the speaker's trustworthiness, professionalism, and persuasiveness (Niebuhr, 2019). Therefore, vocal management is a strategic factor in improving public speaking performance.

Language proficiency refers to mastery of vocabulary, grammatical structure, accuracy of meaning, and the ability to choose expressions appropriate to the context of communication. Good linguistic competence enables speakers to convey ideas accurately, variably, and effectively, while minimizing ambiguity and communication errors. Research shows that limited language proficiency has a direct impact on the fluency, coherence, and quality of argumentation in speaking performance (Saito, K., & Plonsky, 2019). In addition, strong lexical and syntactic proficiency correlates positively with the quality of speech production and evaluation of speaking performance in academic and professional contexts (Suzuki, S., & Kormos, 2020). Thus, language skills are the main foundation for successful and competitive public speaking.

The Causal Relationship Between Public Speaking and Four Factors

Public speaking performance is causally influenced by the speaker's ability to manage message structure, produce speech fluently, control voice quality, and use language accurately. Discourse coherence serves as a cognitive foundation that allows the audience to understand the flow of ideas systematically. The level of discourse coherence has been shown to contribute directly to the comprehensibility and quality of speech evaluation, even when other linguistic factors are controlled (Crossley et al., 2019; Tsunemoto & Trofimovich, 2024). Good coherence also facilitates speech planning, thereby reducing the speaker's cognitive load in language production.

Causally, a coherent message structure supports **fluency in speech**, as speakers can execute ideas without excessive pauses or production disruptions. Fluency is seen as an indicator of language processing efficiency and is significantly related to perceptions of professionalism and speaking competence (Segalowitz, 2016a; Wang et al., 2024). Audiences tend to judge fluent speakers as more convincing, credible, and easy to understand.

In addition to cognitive aspects, **vocal quality** determines the success of auditory message transmission. Voice characteristics such as articulation clarity, pitch, and vocal stability affect speech intelligibility and listening effort. Suboptimal vocal quality has been shown to reduce speech intelligibility and increase listener fatigue, especially in noisy environments (Shen et al., 2023). The audience's perception of a speaker's charisma and persuasiveness is also influenced by vocal and prosodic parameters (Niebuhr, 2019).

Meanwhile, **linguistic competence** acts as a structural determinant that simultaneously influences coherence and fluency. Good command of vocabulary and grammatical structures enables speakers to construct messages with precision and variety. Lexical profile and linguistic accuracy have been shown to predict intelligibility and speech performance quality (Saito, K., Trofimovich, P., & Isaacs, 2018; Suzuki,

S., & Kormos, 2020). Thus, linguistic competence is a key resource that drives the quality of speech production.

Integrally, these four factors form a mutually reinforcing causal relationship: language skills provide linguistic capacity, coherence organizes message structure, fluency enables speech production, and vocal quality ensures that messages are conveyed optimally. This interaction results in effective, professional, and competitive public speaking performance.

Method

The research method used in this study was quantitative. The research subjects were four speech classes of students majoring in Javanese Language Education at Yogyakarta State University. Each class consisted of 21, 21, 22, and 22 students, respectively. The instruments used were observation sheets and Likert scale questionnaires (1: low, 2: moderate, 3: high; 4: very high with an interval of 1.0–1.5 meaning low, 1.6–2.5 meaning moderate, 2.6–3.0 meaning high, and 3.1–4.0 meaning very high. The instruments focused on four aspects of assessment, namely coherence, fluency, voice control, and language control. Data was collected by observing four speech practice sessions with reviews by lecturers after each student finished their speech practice and by having students fill out questionnaires about their perceptions of the four aspects of assessment.

The four aspects of speech evaluation and their indicators are shown in Table 1.

Table 1 Speech factors

No.	Factor	Indicator
1	Sequence	Coherence, interrelated meaning, linearity, and continuity, consistency, organization of material, transitional speech, focus, appropriate speech elements covered or conveyed, and body movements that support speech (body language).
2	Smoothness	A speech that flows smoothly, without stuttering, without long pauses, and is meaningful, without using filler words (utterances that are not related to the speech, such as um, what's it called...), with feeling (emotion: expressed so that the language is pleasant to hear or feel).
3	Sound processing	Volume or sound power, clear pronunciation, firmness, standard speech (speech) intonation, pauses, emphasis, tone of voice, tempo, dynamics, (rhythm: speech rhythm), in accordance with Javanese phonology.
4	Language processing	Standard Javanese language, beautiful literary vocabulary, precise and varied vocabulary, correct syntax (grammar), effective sentences, style appropriate to the topic.

The instrument was validated using intrarater techniques with peer discussions involving five lecturers teaching the course, persistent observation, and extended participation during lectures (Lexy Moleong, 2020). The data were analyzed using descriptive statistics and elaborated qualitatively (Creswell, J. W., & Creswell, 2024).

Results and Discussion

This section describes students' perceptions of the factors that contribute to Javanese speech skills, namely: coherence, fluency, voice control, and language control. Students were asked to rank these four factors according to their level of contribution based on their level of importance, namely: highly contributory, contributory, moderately contributory, and less contributory. Students were asked to rank the four factors from a score of 4 (highly contributes) to 1 (less contributes). Before elaborating further, the average scores for each factor are calculated below, and the results of the mean calculation for each factor can be seen in Table 2.

Tabel 2. Hasil Perhitungan Rerata Skor Persepsi Mahasiswa

No.	Factor	Average	Position on Score	
			Interval Score	Category Score
1.	Coherence	1,87	1,76 – 2,50	Sufficient
2.	Fluency	1,93	1,76 – 2,50	Sufficient
3.	Voice control	3,40	3,26 – 4,00	Very High
4.	Language control	2,80	2,51 – 3,25	High

1,0 – 1,5 low

1,6 – 2,5 moderate

2,6 – 3,0 high

3,1 – 4,0 very high

Visually, the average scores for each factor of students' perceptions of the factors contributing to Javanese speech skills are presented in the following histogram.

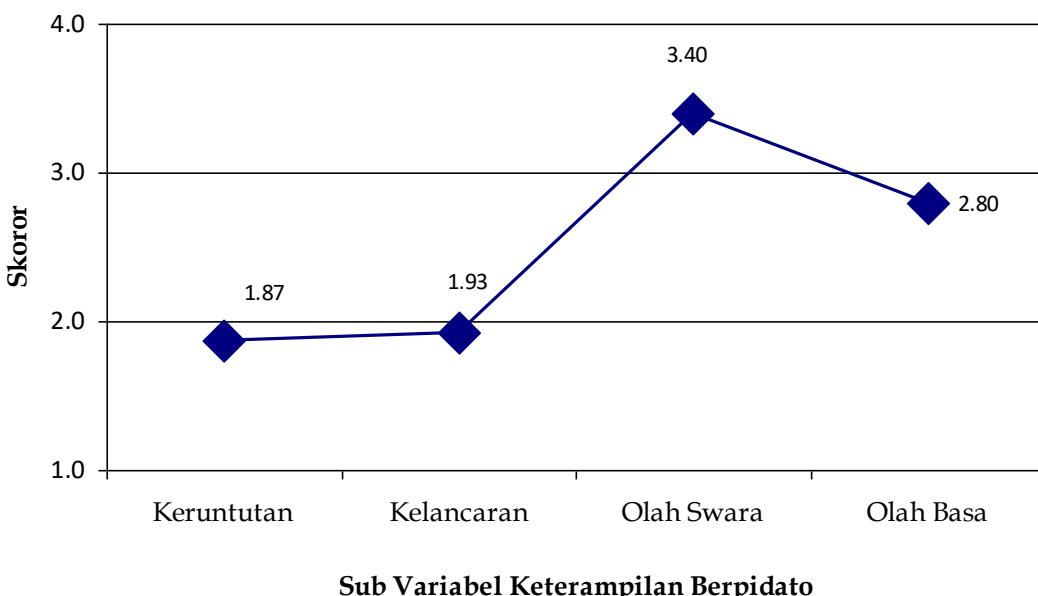


Figure 1. Histogram of Average Scores of Students' Perceptions of Factors Contributing to Javanese Speech Skills

1. Factor 1: Coherence

Based on data analysis using computer software, the mean score of students' perceptions of the contribution of coherence to Javanese speech skills was 1.87; the median was 2.00; the mode was 1; and the standard deviation was 1.060. Students' perception scores of the contribution of coherence to Javanese speech skills based on categorization can be seen in Table 3.

Table 3. Students' Perceptions of the Contribution of Sequentiality to Javanese Speech Skills

No.	Score Interval	Score Category	Frequency	
			n	Percentage (%)
1.	3,26 – 4,00	Highly Contributing	12	14,0
2.	2,51 – 3,25	Contributing	7	8,1
3.	1,76 – 2,50	Moderately Contributing	25	29,1
4.	1,00 – 1,75	Less Contributing	42	48,8
Total			86	100,0

Based on this frequency distribution, the following frequency distribution histogram can be created:

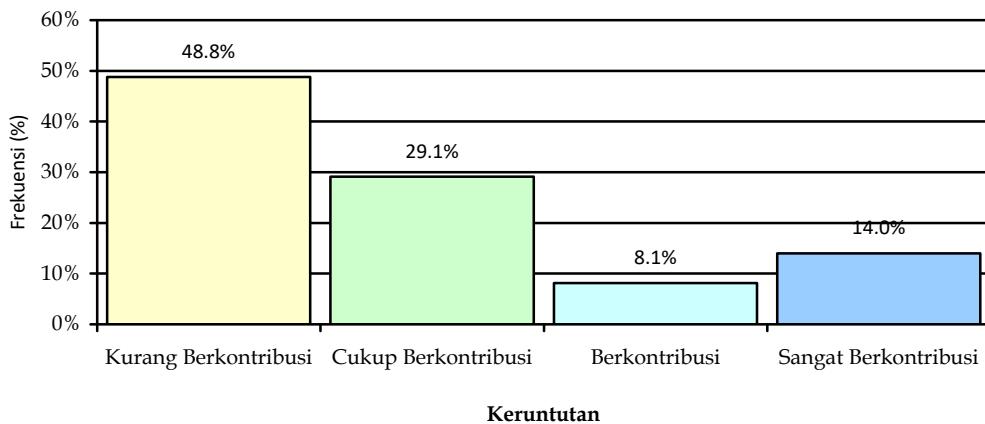


Figure 2. Histogram of Students' Perceptions of the Contribution of Sequentiality to Javanese Speech Skills

Based on the table and histogram above, it is known that out of 86 students, 14.0% stated that consistency greatly contributed to Javanese speech skills; 8.1% stated that it contributed; 29.1% stated that it contributed somewhat; and 48.8% stated that it contributed little. The majority of students stated that it contributed little (48.8%).

Based on the table and histogram, out of 86 students, 48.8% stated that coherence contributed little, 29.1% stated that it contributed moderately, 8.1% stated that it contributed significantly, and only 14.0% stated that it contributed greatly to Javanese speech skills. The dominance of perceptions in the category of contributing less shows that coherence is not yet understood by students as a key factor in successful speech. Theoretically, this finding is interesting because it contradicts modern linguistic and rhetorical studies that place coherence as one of the main determinants of comprehensibility and effectiveness in oral communication (Tsunemoto & Trofimovich, 2024).

In the study of speaking skills, coherence is understood as the speaker's ability to organize ideas logically and continuously so that the audience can follow the flow of discourse without excessive cognitive load. Recent research shows that global coherence—that is, the continuity of main ideas

throughout a speech—has a strong correlation with the level of comprehensibility and the audience's assessment of the quality of the speech (Tsunemoto & Trofimovich, 2024).

However, the low perception of students regarding the contribution of coherence indicates that in speech learning practices, the aspect of discourse organization has not been given equal attention to other linguistic aspects such as fluency and language skills.

From a rhetorical perspective, coherence functions as a structural framework that supports the persuasive power of a speech. Modern rhetoric emphasizes that persuasive messages depend not only on word choice or style, but also on how arguments are systematically organized, developed, and connected (Lucas, 2015). Research in speech education shows that speeches with weak structures tend to be perceived as less convincing even when delivered fluently, because the audience has difficulty grasping the logical connections between ideas or finds them incoherent.

This reinforces the interpretation that students' low perception of coherence may be influenced by a lack of experience or explicit training in structuring speeches.

Furthermore, studies in applied linguistics reveal that language learners often assess speaking performance based on immediately noticeable aspects, such as fluency and vocabulary mastery, while discursive aspects such as coherence are only recognized once they have reached a higher level of speaking proficiency (Saito, K., & Plonsky, 2019). Thus, the majority of assessments that do not contribute to coherence can be interpreted as an indicator that students have not yet fully internalized the importance of idea organization as part of advanced speaking competence.

In summary, these statistical results do not indicate that coherence is unimportant in public speaking, but rather reveal a pedagogical gap between the theory of speaking skills and students' perceptions. In fact, international research consistently confirms that coherence is an essential component in academic and public speeches because it determines the clarity of the message, the effectiveness of rhetoric, and the credibility of the speaker (Lucas, 2015; Tsunemoto, A., & Trofimovich, 2024). Therefore, these findings imply the need to strengthen the learning of coherence through speech organization exercises, the use of discourse markers, and the design of explicit speech structures so that students' speaking skills develop holistically.

2. Factor 2: Fluency

The results of data analysis using computer software show that the mean score of students' perceptions of the contribution of fluency to Javanese speech skills is 1.93; the median is 2.00; the mode is 1; and the standard deviation is 1.049. Students' perception scores of the contribution of fluency to Javanese speech skills based on categorization can be seen in Table 12.

Table 12. Students' Perceptions of the Contribution of Fluency to Javanese Speech Skills

No.	Score Interval	Score Category	Frequency	
			n	Percentage (%)
1.	3,26 – 4,00	Highly Contributing	12	14,0
2.	2,51 – 3,25	Contributing	8	9,3
3.	1,76 – 2,50	Moderately Contributing	28	32,6
4.	1,00 – 1,75	Less Contributing	38	44,2
Total			86	100,0

Based on the frequency distribution above, the following frequency distribution histogram can be created:

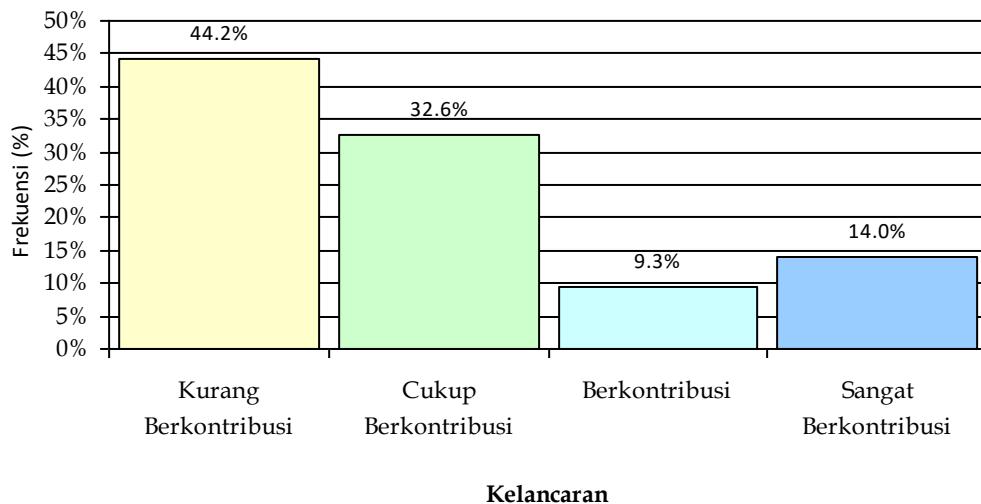


Figure 10. Histogram of Students' Perceptions of the Contribution of Fluency to Javanese Speech Skills

Based on the table and histogram above, it is known that out of 86 students, 14.0% stated that fluency greatly contributed to their Javanese speech skills; 9.3% stated that it contributed; 32.6% stated that it contributed somewhat; and 44.2% stated that it contributed little. The majority of students stated that it contributed little (44.2%).

Based on the table and histogram, out of 86 students, 44.2% stated that fluency did not contribute much, 32.6% stated that it contributed moderately, 9.3% stated that it contributed, and 14.0% stated that it contributed greatly to Javanese speech skills. The dominance of the less contributing category shows that most students do not yet view fluency as a major factor in successful speech. Descriptively, this distribution indicates a tendency toward low perception of the role of fluency, even though theoretically fluency is one of the core indicators of productive active speaking skills (Tavakoli, 2016).

In applied linguistics, fluency is defined as the ability to produce speech in a flowing manner, relatively free from unnatural pauses, excessive repetition, and language processing disruptions (Segalowitz, 2016a). Empirical research shows that fluency contributes significantly to comprehensibility and listeners' assessment of speech quality, even when the speaker's grammatical accuracy is not yet fully optimal (Suzuki & Kormos, 2020). Therefore, students' low perception of the contribution of fluency can be interpreted not as an indication of the unimportance of fluency, but as a reflection that this aspect has not been fully internalized in the experience of learning Javanese speech.

From a cognitive perspective, fluency is closely related to the level of language automation. Learners who have not yet achieved automation tend to focus their cognitive resources on vocabulary and language structure selection, so that fluency is not yet perceived as a determining factor in speech performance (Segalowitz, 2016b). Studies in Language Teaching Research show that in the context of speaking learning, fluency is often an "overlooked" aspect because it is not explicitly taught and assessed, even though it plays a central role in advanced speaking performance (Tavakoli & Hunter, 2018). This is in line with statistical findings that nearly half of respondents rated fluency as less contributory.

From a rhetorical perspective, fluency is an important part of delivery (actio), which is how a speech is effectively conveyed to the audience. Modern rhetoric emphasizes that speeches delivered with fluent speech flow tend to be perceived as more convincing, professional, and credible, because they do

not distract the audience's focus from the content and purpose of the speech (Lucas, 2015). Research in public speaking education has also found that fluency significantly influences the audience's evaluation of the quality of a speech, regardless of its content and structure. Thus, students' low perception of the contribution of fluency has the potential to weaken the rhetorical dimension of the speeches they produce.

In summary, the results of these statistical calculations show a gap between the theoretical basis of speaking skills and students' perceptions of fluency. International literature consistently places fluency as an essential component in productive active speaking skills because it directly affects comprehensibility, rhetorical effectiveness, and the audience's perception of the speaker's competence (Suzuki & Kormos, 2020; Tavakoli, 2016). Therefore, the dominance of the less contributing category (44.2%) implies the need to strengthen fluency learning through repeated speech practice, authentic speaking simulations, and an assessment system that explicitly includes fluency as a key indicator of speech skills.

3. Factor 3: Vocal Training

Analysis of the data using computer software yielded a mean score of 3.40, a median of 3.00, a mode of 4, and a standard deviation of 0.638 for students' perceptions of the contribution of voice training to Javanese speech skills. Students' perception scores of the contribution of voice training to Javanese speech skills based on categorization can be seen in Table 13.

Table 13. Students' Perceptions of the Contribution of Vocal Exercises to Javanese Speech Skills

No.	Score Interval	Score Category	Frequency	
			n	Percentage (%)
1.	3,26 – 4,00	Highly Contributing	41	47,7
2.	2,51 – 3,25	Contributing	38	44,2
3.	1,76 – 2,50	Moderately Contributing	7	8,1
4.	1,00 – 1,75	Less Contributing	0	0,0
Total			86	100,0

Based on the frequency distribution above, the following frequency distribution histogram can be created:

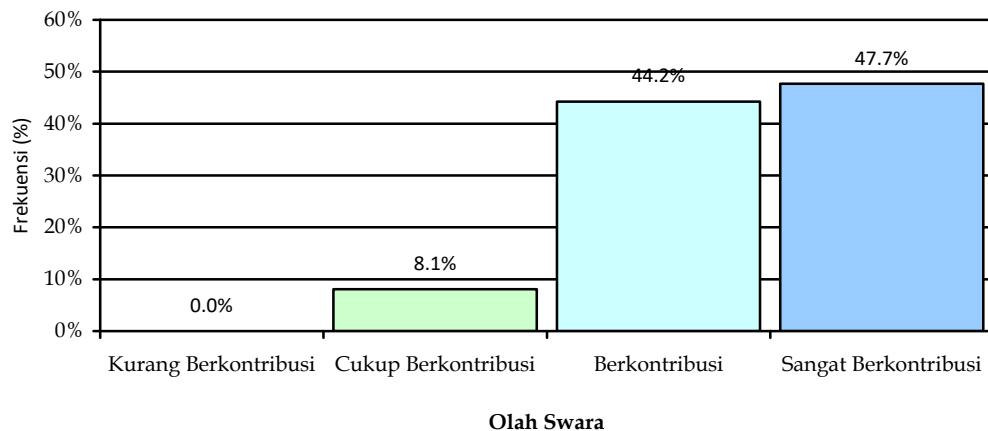


Figure 11. Histogram of Students' Perceptions of the Contribution of Vocal Training to Javanese Speech Skills

Based on the table and histogram above, it is known that out of 86 students, 47.7% stated that voice training greatly contributed to their Javanese speech skills; 44.2% stated that it contributed; and 8.1% stated that it contributed somewhat; and no students stated that it contributed little. The majority of students stated that it contributed greatly (47.7%).

Based on the analysis of 86 students, it was found that the majority of respondents (44.2%) stated that fluency in speech did not contribute to Javanese speech skills, followed by the categories of contributing somewhat (32.6%), contributing greatly (14.0%), and contributing (9.3%). This distribution shows a tendency for students to have a relatively low perception of the role of fluency in the success of Javanese speech.

Statistically, the dominance of the “less contributing” category indicates an imbalance between the theoretical concept of speaking skills and students' learning experiences. In language skills studies, speaking is a productive skill that is greatly influenced by three main components, namely fluency, accuracy, and complexity. Fluency specifically reflects the speaker's ability to deliver speech fluently, with minimal pauses and without excessive cognitive interference.

The finding that students consider fluency to be less important can be understood as an indication that in the practice of Javanese speech learning, assessment and habituation focus more on normative linguistic aspects, such as *unggah-ungguh basa*, choice of register (*ngoko*, *krama*, *krama inggil*), and vocabulary accuracy, rather than on the performative aspects of speech. However, from a rhetorical perspective, fluency is an important prerequisite for effective oral communication, because fluency is directly related to the persuasiveness and comprehensibility of the message by the audience.

Research in the field of speech performance shows that fluency serves as an indicator of high-level speaking skills, because fluent speakers are able to allocate their cognitive resources to the development of ideas and rhetorical strategies, rather than simply to the processing of language forms (Tavakoli, 2016). In other words, low perceptions of the contribution of fluency may reflect that students have not yet reached the stage of language automation, so that fluency is not yet perceived as a determining factor in the success of a speech.

In the context of rhetoric, Aristotelian rhetoric emphasizes that the effectiveness of a speech is not only determined by *ethos*, *pathos*, and *logos*, but also by *delivery* (action), which includes fluency, intonation, tempo, and clarity of articulation. Modern studies in educational rhetoric show that fluency in speaking has a significant effect on the audience's perception of the speaker's competence and the credibility of the message. Therefore, students' low perception of fluency can have an impact on the poor quality of Javanese speech rhetoric produced.

Furthermore, these results can also be interpreted as a signal that Javanese speech learning and assessment strategies need to be reoriented. Assessments that place too much emphasis on linguistic accuracy without integrating the dimension of fluency have the potential to hinder the holistic development of speaking skills. In line with research, effective speech learning needs to balance fluency practice with linguistic accuracy so that students are able to communicate naturally and persuasively.

Thus, the majority of findings in the less contributing category do not necessarily indicate that fluency is unimportant, but rather indicate a pedagogical gap between the theory of speaking skills and its implementation in Javanese speech learning. Efforts to improve speech quality need to be directed towards continuous practice, authentic speech simulations, and assessment rubrics that explicitly place fluency as a key component of speaking and rhetorical skills.

4. Factor 4: Language skills

The results of data analysis using computer software show that the mean score of students' perceptions of the contribution of language arts to Javanese speech skills is 2.80, with a median of 3.00, a mode of 3, and a standard deviation of 0.892. Students' perception scores of the contribution of language arts to Javanese speech skills based on categorization can be seen in Table 14 below.

Table 14. Students' Perceptions of the Contribution of Language Arts to Javanese Speech Skills

No.	Interval Score	Category Score	Frequency	
			n	Percentage (%)
1.	3,26 – 4,00	Highly Contributing	21	24,4
2.	2,51 – 3,25	Contributing	33	38,4
3.	1,76 – 2,50	Moderately Contributing	26	30,2
4.	1,00 – 1,75	Less Contributing	6	7,0
Total			86	100,0

Based on the frequency distribution above, the following frequency distribution histogram can be created:

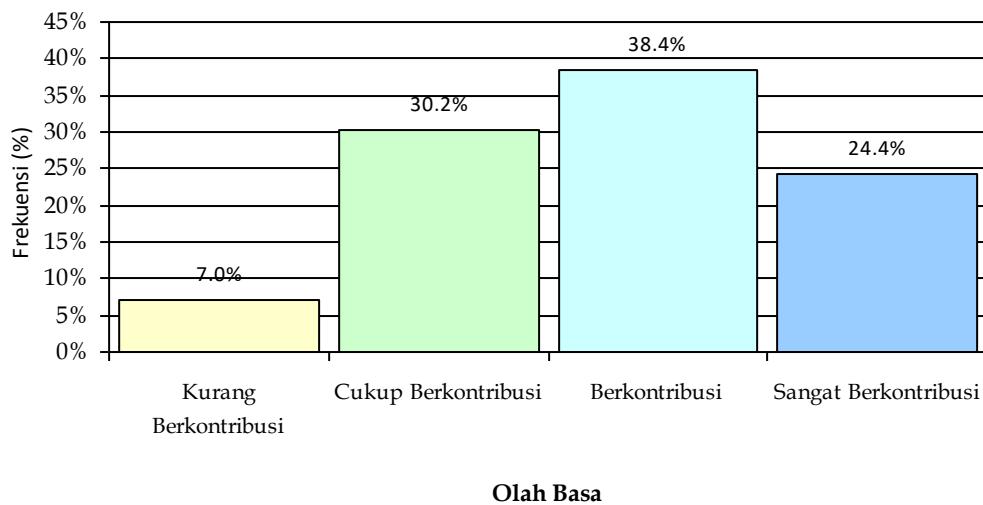


Figure 12. Histogram of Students' Perceptions of the Contribution of Language Arts to Javanese Speech Skills

Based on the table and histogram above, it is known that out of 86 students, 24.4% stated that language training greatly contributed to their Javanese speech skills; 38.4% stated that it contributed; 30.2% stated that it contributed somewhat; and 7.0% of students stated that it contributed little. The majority of students stated that it contributed greatly (38.4%).

Based on the table and histogram, it is known that out of 86 students, 38.4% stated that language skills contributed, 24.4% stated that they contributed greatly, 30.2% stated that they contributed sufficiently, and only 7.0% stated that they contributed less. These findings indicate that the majority of students (62.8%) view language skills as a dominant factor in Javanese speech skills. Descriptively, this distribution reflects a strong positive perception of the role of language skills in speech success, while also confirming that language management skills are the main foundation of productive active speaking skills.

In the study of speaking skills, speech is understood as a high-level language production activity that requires the ability to simultaneously integrate linguistic and rhetorical aspects. Language processing—which includes word choice, sentence structure, use of style, and adaptation of language variety to context—enables speakers to convey ideas clearly, coherently, and persuasively. Research in applied linguistics shows that the quality of language processing is directly related to the effectiveness of verbal message delivery and the audience's perception of the speaker's competence (Saito, K., Trofimovich, P., & Isaacs, 2018; Tavakoli, 2016). Therefore, the high percentage of students who rated language processing as contributing and contributing greatly indicates an awareness that the success of a speech is not only determined by courage or mastery of the material, but by the ability to process language strategically.

From a rhetorical perspective, language manipulation is the primary means of actualizing the persuasive function of speech. Modern rhetoric views language not merely as a tool for conveying information, but as an instrument for building ethos, evoking pathos, and constructing logos effectively through the appropriate choice of language. Recent studies in public speaking and rhetorical performance confirm that lexical variation, controlled syntactic structure, and the use of rhetorical style contribute significantly to the appeal and acceptability of speeches before audiences (Lucas, 2015). Thus, the findings of the majority of students in the contributing and highly contributing categories reinforce the argument that language skills are at the core of speech rhetoric.

In addition, in the context of learning regional languages such as Javanese, language processing has an additional dimension in the form of mastery of etiquette and appropriate speech patterns. The ability to process language contextually allows students to adapt the form of language to the speech situation, audience, and communication objectives. Research in speech education shows that learners with good language processing skills tend to be able to produce speeches that are more coherent, convincing, and rhetorically valuable than learners who only focus on normative linguistic aspects (Saito, K., & Plonsky, 2019). This explains the low percentage of students who consider language processing to be of little contribution (7.0%), because empirically they directly feel the positive impact of language processing on speech performance.

In summary, these statistical findings confirm that language skills are a key variable in the development of public speaking skills as a productive active speaking skill. The dominance of positive perceptions among students indicates that language arts proficiency serves as the main driver of speech rhetoric, enabling speakers to convey ideas effectively, persuasively, and contextually. Therefore, Javanese speech learning needs to systematically integrate language arts exercises as an integral part of speaking and rhetoric skill development.

Conclusion

Based on the results of the research and discussion, it can be concluded that (1) all four variables—voice control, language control, fluency, and coherence—have a positive and significant contribution to speech quality; (2) coherence contributes 1.87, which is sufficient; fluency contributes 1.93, which is sufficient; voice training contributes 3.40, which is very high; and language training contributes 2.80, which is high; (3) voice control and language control are the dominant factors that determine students' speech skills; and (4) in terms of order, voice control (very high), language control (high), fluency and coherence (sufficient).

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