Testing Public Speaking Proficiency: Designing an Assessment Instrument for University Students

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Abstract: This study aimed to develop a valid and reliable assessment instrument to measure university students' public speaking proficiency. A sample of 30 students from a private university in East Java, Indonesia, was selected based on inclusion and exclusion criteria. The assessment instrument consisted of five main components, and the reliability and validity of the instrument were assessed through various statistical methods. Results showed that the instrument effectively measured public speaking proficiency, with students performing well on fluency and eye contact and gestures. However, students struggled the most with the organization and structure component. The findings suggest that the assessment instrument can provide useful feedback for improvement in specific areas and offers a valuable tool for evaluating university students' public speaking proficiency. This information can be critical for enhancing teaching practices. Further research is recommended to validate its use in different settings and populations.

Keywords: assessment instrument; proficiency test; public speaking; speaking proficiency; R&D design

INTRODUCTION

Effective public speaking is a crucial skill for university students as it not only enhances their communication abilities but also prepares them for their future careers (Bradberry & de Maio, 2019; Gallego et al., 2020; Rao, 2019). However, accurately assessing the public speaking proficiency of university students can be a challenging task (Dondi et al., 2021; Zhang & Ardasheva, 2019). Existing assessment tools may lack comprehensiveness or reliability, making it difficult for educators and researchers to evaluate students' public speaking proficiency accurately (Naqvi et al., 2023). Therefore, this study aims to develop a valid and reliable assessment instrument that can comprehensively and accurately measure university students' public speaking proficiency. The importance of public speaking cannot be overstated, as it is a fundamental skill required in almost every field of work. Despite this, many students struggle with public speaking, and some may even develop a fear of speaking in public. In response to this, universities offer public speaking courses to help students improve their skills, but the effectiveness of these courses can be difficult to be evaluated without a reliable assessment tool (Saito & Plonsky, 2019). The novelty of this research lies in the development of an assessment instrument that evaluates multiple aspects of public speaking proficiency. This instrument will assess fluency and pronunciation, content, organization and structure, eye contact and gestures, and language use and vocabulary. Although some existing assessment tools are available, they may lack comprehensiveness or reliability (Kusi-Mensah et al., 2022). Thus, a new assessment instrument is needed to overcome these limitations.

The primary objective of this research is to design and develop a comprehensive and reliable assessment instrument that accurately measures university students' public speaking proficiency by evaluating various aspects of speaking skills. By providing educators and researchers with a valid and reliable instrument to evaluate university students' public speaking proficiency, this study has scientific merit and can contribute to the improvement of public speaking education for university students. To achieve the objective, two research questions will guide this study. The first research question is focused on the development of the assessment instrument, and it is: What are the specific subcategories within each of the five main components of the
assessment instrument designed to measure public speaking proficiency among university students, and how do these subcategories contribute to an overall evaluation of public speaking proficiency? The assessment instrument developed in this study evaluates multiple aspects of public speaking proficiency, including fluency and pronunciation, content, organization and structure, eye contact and gestures, and language use and vocabulary. Each of these five main components consists of specific subcategories that contribute to the overall evaluation of public speaking proficiency. This research question aims to identify these subcategories and explore how they contribute to the overall evaluation of public speaking proficiency among university students.

The second research question is focused on the effectiveness of the assessment instrument and the feedback that can be provided to students based on the results of the assessment. This question is: How effective is the assessment instrument designed in this study in accurately and objectively measuring university students’ public speaking proficiency? This research question aims to evaluate the effectiveness of the assessment instrument developed in this study in measuring university students' public speaking proficiency accurately and objectively. By addressing these research questions, this study can contribute to the improvement of public speaking education for university students.

In conclusion, this study is of utmost significance as it aims to provide educators and researchers with a comprehensive and reliable assessment instrument to evaluate public speaking proficiency accurately. The findings of this research will contribute to improving public speaking education for university students, which is a crucial component of their personal and professional development.

METHOD

This section outlines the methodology employed in the study, including the research design, participant selection and sampling techniques, as well as the methods of analysis used.

Research design

This study employed a research and development method to design and develop an assessment instrument that measures university students’ public speaking proficiency (de Oliveira & Proença, 2019; Khannan et al., 2021). The method involved defining the need analysis, conducting a literature review, developing assessment criteria and rubrics, creating a speech prompt, designing the assessment instrument, conducting a pilot study, collecting and analyzing data, and reporting results and recommendations (Aprianoto & Haerazi, 2019; Fan & Yan, 2020; Jankowska & Zielińska, 2015). This design was chosen for its suitability to the study's purpose, effectiveness, and practicality. The research design also allowed for iterative feedback from experts and literature, ensuring the assessment instrument was well-grounded in relevant theories and best practices within the field of public speaking assessment.

Population and Sampling

The population for this study was university students from the English Language Education Faculty in a private university in East Java, Indonesia. The sampling process involved selecting a representative sample of students from different academic years and program tracks within the faculty. Inclusion criteria for the sample were being currently enrolled as a full-time student and having taken at least one public speaking course. Exclusion criteria included any history of speech disorders or communication difficulties that could potentially affect their public speaking proficiency. A total of 30 students were selected as the sample for this study. This sample size was determined based on the availability of participants who met the inclusion criteria and the feasibility of conducting the study within the given timeframe and resources (Ahmad & Halim, 2017; Malterud et al., 2021). Regarding the potential limitations or challenges that may arise due to the smaller sample size, the author acknowledged the potential for limited generalizability of the findings to the larger population. To address this limitation, the author suggested providing a thorough description of the sample characteristics and ensuring that the analysis and interpretation of the data are appropriately nuanced and contextualized (Blaikie, 2018; Boddy, 2016).

Stages of Assessment Instrument Development

The method began with a need analysis, where the research team conducted classroom observations and interviews with instructors and students at the case university to identify challenges and gaps in existing
public speaking assessment methods. This design was chosen for its suitability to the study's purpose, effectiveness, and practicality. Following the need analysis, a literature review was conducted to systematically search and review scholarly articles, books, and reports on public speaking assessment. Based on the findings from the literature review and expert consultations, the research team created a set of assessment criteria and rubrics. They also designed a speech prompt that would elicit the public speaking skills identified in the criteria. By combining the criteria, rubrics, and speech prompt, the research team developed a comprehensive assessment instrument and then checked the validity and reliability of the instrument.

To ensure the instrument's effectiveness, a pilot study was conducted on a small group of students. The research team used the results of the pilot study to refine the instrument before administering it to a larger sample of students. Data collected from the larger sample were then analyzed to examine the instrument's ability to measure public speaking proficiency effectively. The research design allowed for iterative feedback from experts and literature, ensuring the assessment instrument was well-grounded in relevant theories and best practices within the field of public speaking assessment. Finally, the researchers reported the results and recommendations, discussing the strengths and weaknesses of the assessment instrument and its implications for public speaking assessment. This comprehensive approach to the research and development method contributed to the creation of a practical and effective assessment instrument for university students' public speaking proficiency (Aprianoto & Haerazi, 2019; Fan & Yan, 2020; Jankowska & Zielińska, 2015).

Instrument

The assessment instrument in this study was designed to measure university students' public speaking proficiency, incorporating five main components: fluency and pronunciation, content, organization and structure, eye contact and gestures, and language use and vocabulary. Each component consisted of several subcategories evaluating distinct aspects of public speaking proficiency. To ensure reliability and validity, the instrument was pilot-tested with a sample of 30 university students. The self-administered assessment used a Likert scale from 1 (poor proficiency) to 5 (excellent proficiency) for rating students' performance (Amidei et al., 2019). A variety of statistical methods were employed to assess the instrument's validity and reliability. For example, factor analysis was used to identify the underlying structure of the components, ensuring that they measured the intended aspects of public speaking proficiency. Cronbach's alpha was calculated to determine the internal consistency of the instrument, confirming that the items within each component were closely related. Inter-rater reliability analysis was conducted by comparing the scores assigned by different evaluators, ensuring that the instrument produced consistent results across evaluators. The results from these analyses indicated the instrument's suitability for gauging public speaking proficiency.

Key specifications of the instrument included scoring criteria, time allocation, item format, and evaluation scale. The five categories were assessed using a five-point scale. Speakers were allocated 10 minutes for presentation preparation and 10-15 minutes for delivery, allowing adequate time without causing undue pressure. The item format consisted of a rubric, detailing scoring criteria and corresponding score points for each category. It also provided specific examples of various performance levels for each category. Subcategories were scored on a 1 to 5 scale, and the overall score for each category was determined by averaging the subcategory scores. The overall score for the assessment instrument was derived by averaging the scores of the five categories, providing a transparent and objective measure of a speaker's performance. The rubric served as a valuable resource for both speakers and evaluators to understand the expectations for each category.

RESULTS AND DISCUSSION

The purpose of this study was to design and develop an assessment instrument to measure university students' public speaking proficiency. The instrument was designed by reviewing the literature on public speaking assessment and incorporating feedback from experts in the field. The final instrument consists of five main components: fluency and pronunciation, content, organization and structure, eye contact and gestures, and language use and vocabulary (see Table 1).

Table 1: The Speaking Rubric Assessment Instrument
<table>
<thead>
<tr>
<th>Scoring Criteria</th>
<th>Excellent (5 points)</th>
<th>Good (4 points)</th>
<th>Fair (3 points)</th>
<th>Poor (2 points)</th>
<th>Needs Improvement (1 point)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fluency and pronunciation</strong></td>
<td>Speaker maintains a natural pace, minimal hesitation, and clear enunciation throughout the speech.</td>
<td>Speaker mostly maintains a natural pace, with some hesitations, and generally clear enunciation.</td>
<td>Speaker's pace is uneven, noticeable hesitations, and occasional unclear enunciation.</td>
<td>Speaker frequently struggles with pace, has frequent hesitations, and unclear enunciation.</td>
<td>Speaker's pace is consistently problematic, constant hesitations, and poor enunciation, making speech difficult to understand.</td>
</tr>
<tr>
<td><strong>Content</strong></td>
<td>Speaker delivers a well-researched, engaging, and coherent speech with strong supporting evidence.</td>
<td>Speaker delivers a mostly well-researched and coherent speech with some supporting evidence.</td>
<td>Speaker delivers a somewhat researched and coherent speech with limited supporting evidence.</td>
<td>Speaker delivers a poorly researched and incoherent speech with little or no supporting evidence.</td>
<td>Speaker delivers an inadequately researched and incoherent speech, lacking any supporting evidence.</td>
</tr>
<tr>
<td><strong>Organization &amp; Structure</strong></td>
<td>Speaker delivers a well-organized and cohesive presentation, including a well-defined introduction, a thorough and informative main section, and a decisive conclusion.</td>
<td>Speaker presents a mostly well-organized and cohesive presentation, including a well-defined introduction, a thorough and informative main section, and a decisive conclusion.</td>
<td>Speaker's message lacks some organization or structure, but overall is still coherent</td>
<td>Speaker's message is disorganized and difficult to follow</td>
<td>Speaker's message lacks coherence and structure</td>
</tr>
<tr>
<td><strong>Eye Contact &amp; Gestures</strong></td>
<td>Speaker sustains an appropriate level of eye contact and employs effective gestures contribute to audience</td>
<td>Speaker sustains some eye contact and effective gestures contribute to audience</td>
<td>Speaker occasionally breaks eye contact or uses inappropriate gestures, but recovers</td>
<td>Speaker frequently breaks eye contact or uses inappropriate gestures, and struggles to</td>
<td>Speaker avoids eye contact and lacks effective or appropriate gestures</td>
</tr>
</tbody>
</table>
The Speaking Rubric Assessment Instrument, as presented in Table 1, provides a comprehensive framework to evaluate a speaker's performance in various domains, including fluency and pronunciation, content, organization and structure, eye contact and gestures, and language use and vocabulary. The results obtained from this assessment tool can offer valuable insights into the strengths and weaknesses of a speaker, and help them improve their overall communication skills.

Fluency and pronunciation play a crucial role in ensuring that the speaker's message is effectively conveyed to the audience (Levis, 2018). The results from this criterion highlight the importance of maintaining a natural pace and clear enunciation to minimize misunderstandings and enhance audience engagement. The assessment results can guide speakers in practicing and refining their speaking skills to achieve better fluency and pronunciation. Content is another essential aspect of a successful speech, as it demonstrates the speaker's knowledge, research, and understanding of the topic (Leong & Ahmadi, 2017). A well-researched and coherent speech with strong supporting evidence helps the audience grasp the intended message and stay engaged throughout the presentation. The assessment results can be used to identify areas of improvement in terms of research and evidence-based content, ultimately contributing to a more effective and persuasive speech. Organization and structure of a speech contribute to its overall coherence and flow, which is necessary for audience comprehension (Zhang & Lo, 2021). A well-organized speech, consisting of a clear introduction, main section, and conclusion, helps the audience follow the speaker's arguments and ideas. The assessment results can help speakers understand the importance of organizing their speech effectively, and provide actionable feedback for enhancing the structure of their presentations. Eye contact and gestures are critical components of nonverbal communication that can influence the audience's perception of the speaker (John et.al., 2017). Sustaining appropriate eye contact and using effective gestures can enhance audience engagement and demonstrate the speaker's confidence and credibility (Altun, 2019). The assessment results can help speakers recognize the impact of nonverbal communication on their presentation and encourage them to improve their eye contact and gestures for better audience connection. Language use and vocabulary are essential in conveying the speaker's message accurately and eloquently (Bonvillain, 2019). The assessment results can help speakers identify areas of improvement in their choice of language and vocabulary, guiding them towards using more appropriate and varied language to maintain audience interest and amplify their message.
In conclusion, the Speaking Rubric Assessment Instrument serves as a valuable tool for evaluating and providing feedback on various aspects of a speaker's performance. By analyzing the results, speakers can gain insights into their strengths and weaknesses, allowing them to make informed decisions on how to enhance their communication skills. The assessment tool is supported by research in various fields, emphasizing the importance of each criterion in delivering a successful and engaging speech. The mean scores obtained by the sample on each component of the instrument are presented in Table 2:

Table 2: Mean Scores of University Students on the Speaking Rubric Assessment Instrument

<table>
<thead>
<tr>
<th>Component</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluency and Pronunciation</td>
<td>4.2</td>
</tr>
<tr>
<td>Content</td>
<td>3.8</td>
</tr>
<tr>
<td>Organization and Structure</td>
<td>3.6</td>
</tr>
<tr>
<td>Eye Contact and Gestures</td>
<td>4.1</td>
</tr>
<tr>
<td>Language Use and Vocabulary</td>
<td>3.9</td>
</tr>
</tbody>
</table>

As shown in Table 2, the university students obtained the highest mean score on the Fluency component, with a mean score of 4.2 out of 5. They also performed well on the Eye Contact and Gestures component, with a mean score of 4.1. However, the students struggled the most with the Organization and Structure component, with a mean score of 3.6. These findings suggest that the Speaking Rubric assessment instrument effectively measures university students' public speaking proficiency and can provide useful feedback for improvement in specific areas. Fluency is considered to be a fundamental aspect of public speaking and university students may have more experience with public speaking and communication than other learners (Dinh & Tran, 2020; Maryam et al., 2019). Moreover, university students may have had more opportunities to practice their speaking skills and receive feedback from peers and instructors, which could have helped to develop their fluency skills. The high scores on the Fluency component among university students may be attributed to a combination of factors, including their greater exposure to public speaking situations (Bauth et al., 2019; Tavakoli et al., 2020), opportunities for practice and feedback (Din & Saeed, 2018; Gan et al., 2021; Susanto et al., 2019), and the emphasis placed on fluency in the Speaking Rubric assessment instrument (Fan & Yan, 2020; Suzuki et al., 2021). The Speaking Rubric assessment instrument used in the present study may have also contributed to the high scores on the Eye Contact and Gestures component. The rubric clearly defines the criteria for eye contact and gestures, which may have encouraged students to pay closer attention to these skills during their presentations. The use of a rubric also provides a clear and consistent framework for evaluating these skills, which may have helped to increase students’ scores on these components. In conclusion, the high scores on the Eye Contact and Gestures component among the university students in the present study may be attributed to their greater training, practice, and opportunities for feedback on these skills, as well as the clear criteria and consistent evaluation provided by the Speaking Rubric assessment instrument. In contrast, the lower scores on the Organization and Structure component among university students may be attributed to a combination of factors, including a lack of sufficient training and feedback, the complexity of the presentations required in higher education, and the high level of detail required by the Speaking Rubric assessment instrument (Ferrer-Pardo et al., 2022; Pitt et al., 2019; Stephenson & Hall, 2021; Zainurrahman & Sangaji, 2019). Addressing these factors may be key to helping students improve their organization and structure skills in public speaking.

To evaluate the reliability and validity of this instrument, we conducted an inter-rater reliability analysis and an internal consistency analysis. The results of these analyses are presented in Table 1 below, which provides important information on the instrument's reliability and consistency. The results showed that the instrument is a valid and reliable tool for evaluating university students' public speaking proficiency. The inter-
rater reliability of the instrument was high, indicating that the scores assigned by different raters were consistent. Additionally, the internal consistency of the instrument was high, indicating that the subcategories within each component were measuring the same construct.

Table 3: Results of Inter-rater Reliability and Internal Consistency Analysis

<table>
<thead>
<tr>
<th>Assessment Component</th>
<th>Cronbach's Alpha</th>
<th>Inter-rater Reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluency &amp; Pronunciation</td>
<td>0.90</td>
<td>0.92</td>
</tr>
<tr>
<td>Content</td>
<td>0.89</td>
<td>0.91</td>
</tr>
<tr>
<td>Organization &amp; Structure</td>
<td>0.88</td>
<td>0.93</td>
</tr>
<tr>
<td>Eye Contact &amp; Gestures</td>
<td>0.92</td>
<td>0.95</td>
</tr>
<tr>
<td>Language Use &amp; Vocabulary</td>
<td>0.87</td>
<td>0.90</td>
</tr>
</tbody>
</table>

Note: Cronbach's alpha was used to measure the internal consistency of each component, with a value of 0.7 or higher indicating high internal consistency. Inter-rater reliability was calculated using the intra-class correlation coefficient (ICC), with a value of 0.7 or higher indicating high inter-rater reliability. As shown in Table 3, the Cronbach's alpha values for each component indicate high internal consistency, with all values exceeding the recommended threshold of 0.7. Additionally, the inter-rater reliability scores for each component are also high, with all values exceeding 0.9, indicating that different raters consistently assigned similar scores. These results suggest that the assessment instrument is a valid and reliable tool for evaluating university students' public speaking proficiency.

The first research question was "What are the specific subcategories within each of the five main components of the assessment instrument designed to measure public speaking proficiency among university students, and how do these subcategories contribute to an overall evaluation of public speaking proficiency?" The results showed that each component and subcategory of the instrument is important in evaluating public speaking proficiency. The fluency component, for example, assesses the speaker's ability to speak smoothly, confidently, and at a natural pace. This is important because a speaker who hesitates or rushes through their speech may be difficult to follow and understand (Ajani, 2021; Horii et al., 2021). Similarly, the pronunciation and articulation component assesses the speaker's ability to enunciate words clearly and correctly, which is important for ensuring that the audience can understand the message (Hall, 1997; Ma, 2015; Ma et al., 2018).

The second research question was "How effective is the assessment instrument designed in this study in accurately and objectively measuring university students' public speaking proficiency?" The results showed that the instrument is effective in accurately and objectively measuring public speaking proficiency. The scores provided by the instrument can be used to provide specific feedback to students on their strengths and weaknesses in each component and subcategory. For example, a student who scores low in the organization and structure component may need to work on creating a clear introduction, body, and conclusion for their speech (Burns, 2019; Gani et al., 2015; Qadhi, 2018; Tekşan et al., 2019). To improve their public speaking skills, students who struggle with organization and structure should focus on creating a well-structured and engaging introduction, body, and conclusion for their speech (Burns, 2016). By following these fundamental principles, students can deliver speeches that are coherent, logical, and easy to follow, resulting in a more impactful and memorable presentation. The body of the speech should be well-organized and structured, with each paragraph or section focusing on a specific idea or point. It is essential to use transitional words and phrases to ensure that the text flows smoothly from one section to the next. Furthermore, the body of the speech should provide evidence and support for the thesis statement, using examples, statistics, or other relevant information. Finally, the conclusion of the speech should restate the thesis statement and summarize the main points of the speech. This section should also provide a sense of closure to the speech, leaving the audience with a clear understanding of the key takeaways and main ideas. In summary, a student who struggles with the organization and structure component of public speaking may need to focus on creating a clear introduction, body, and conclusion for their speech (Braithwaite et al., 2021; Kelsen, 2019; Ramos, 2020; Underhill et al.,
In conclusion, the assessment instrument developed in this study is a valid and reliable tool for evaluating university students’ public speaking proficiency. The instrument measures five main components of public speaking proficiency: fluency and pronunciation, content, organization and structure, eye contact and gestures, and language use and vocabulary. The instrument can provide educators and researchers with valuable information on students’ strengths and weaknesses in each component and subcategory, allowing for targeted feedback and improvement.

CONCLUSION

The findings of this study provide evidence that the assessment instrument developed is a valid and reliable tool for evaluating university students' public speaking proficiency. The results indicated that all components and subcategories of the instrument are important in evaluating public speaking proficiency, as they contribute to an overall evaluation of the speaker's ability. The fluency component was found to be particularly important for evaluating a speaker's ability to speak smoothly, confidently, and at a natural pace, while the pronunciation and articulation component was important for ensuring that the audience can understand the message. The instrument was also found to be effective in accurately and objectively measuring public speaking proficiency, allowing for targeted feedback and improvement.

Overall, the assessment instrument provides educators and researchers with valuable information on students' strengths and weaknesses in each component and subcategory, which can be used to provide specific feedback and improve teaching practices. Further research is recommended to validate the use of this assessment instrument in different settings and with different populations.

REFERENCES


