

## ARTICLE

# Constructing a Problem-Based Learning Framework for Speaking Proficiency: An Andragogical Perspective on Multiethnic Learners

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## ABSTRACT

This study focuses on designing a Problem-Based Learning (PBL) model tailored to enhance speaking skills among multiethnic adult learners by incorporating an andragogical approach. In today's digital era, oral communication is a vital transferable skill, yet formal instruction in this area remains insufficient. To address this gap within culturally and linguistically diverse classrooms, the research integrates three foundational frameworks: PBL—fostering critical thinking and problem-solving; andragogy—aligning with the self-directed and experiential learning traits of adults; and a multiethnic perspective—ensuring inclusivity across diverse cultural backgrounds. Using a research and development methodology based on the Joice and Weil instructional design model, the study produced a comprehensive PBL framework comprising six key elements: syntax (including stages such as problem identification, exploration, solution development, presentation with reflection, and evaluation with follow-up), social system, principles of reaction, support system, instructional impact, and nurturant impact. The model underwent expert validation by five specialists in education, linguistics, and adult learning. Validation outcomes demonstrated high validity across content, language, and visual design, with Aiken's V coefficients averaging 0.91, 0.92, and 0.95, respectively. Findings suggest the model effectively mitigates speaking anxiety, promotes learner autonomy, and nurtures empathy and intercultural awareness. Additionally, it supports the development of essential 21st-century competencies. The study concludes that the proposed model is both valid and suitable for implementation in second and third language instruction, offering a novel contribution to educational research by uniquely merging PBL, andragogy, and multiethnic pedagogy.

**Keywords:** Problem-Based Learning; Andragogy; Speaking Skills; Multiethnic Students

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# 1. Introduction

The primary challenge in developing speaking skills at the university level is that students often feel a lack of confidence and competence when speaking in public. The average speaking skills score for students was 4.5, which is categorized as poor<sup>[1]</sup>. Furthermore, common issues faced by students include public speaking anxiety, a lack of structure in presentations, and difficulty in conveying ideas clearly and persuasively. These factors can hinder academic performance and reduce career opportunities<sup>[2]</sup>. Numerous reports and studies indicate that a majority of university students struggle with developing adequate speaking skills<sup>[3]</sup>. This is often attributed to a lack of practical exercises, public speaking anxiety, and the absence of effective learning models to hone students' speaking skills in higher education<sup>[4,5]</sup>.

Speaking skills are a crucial component of transferable skills, which can be applied across various professional situations. Transferable skills encompass communication, critical thinking, digital fluency, diversity and collaboration, ethics, professional responsibility, and the ability to acquire and process information effectively<sup>[6]</sup>. The advancement of technology and new media has transformed communication, including within academic settings. Students frequently use social media, video platforms, and other digital communication tools for written communication. This situation presents new opportunities for developing speaking skills through various formats and media<sup>[7,8]</sup>. However, while students may be proficient in using technology for digital communication, they often lack formal, structured oral speaking skills. Higher education institutions must adapt their curricula and teaching methods to ensure that students develop strong oral communication skills in addition to their digital communication abilities<sup>[9]</sup>. Modern universities are also becoming increasingly diverse ethnically and culturally. Students from various cultural backgrounds bring unique perspectives that can enrich discussions and learning. This diversity mirrors the global workforce that students will enter after graduation<sup>[9,10]</sup>.

Many studies have demonstrated the effectiveness of Problem-Based Learning (PBL). However, its application in the context of speaking skills still requires further exploration<sup>[3]</sup>. PBL was chosen as the primary model for this study because it has proven effective in enhancing critical thinking, problem-solving, and speaking skills among stu-

dents. This model places students at the center of the learning process, encouraging them to actively participate, discuss, and propose solutions to real-world problems<sup>[11]</sup>. Studies conducted at various universities show that students learning through PBL tend to be more verbally active and engaged in discussions. For example, in higher education institutions in West Sumatra, some study programs place more emphasis on knowledge transfer than on developing problem-based abilities<sup>[12]</sup>.

In the context of adult education, or andragogy, a learner-centered approach is increasingly relevant for ensuring effective learning. The principles of andragogy include the relevance of learning to real-life experiences, a task-oriented approach, and a deep understanding of the learner's intrinsic motivation<sup>[13]</sup>. Empirical studies on the use of andragogical approaches in higher education indicate that adult students are more responsive to methods that involve them actively and are relevant to their experiences<sup>[14]</sup>. Malcolm Knowles is a key figure in the theory of andragogy<sup>[15]</sup>. Knowles' theory posits that adults learn best when they are actively involved in a learning process that is relevant to their experiences and needs<sup>[16]</sup>. Andragogy was selected because it aligns with the characteristics of university students as adult learners who require a relevant, practical, and experience-centered learning approach. This approach, first introduced by Malcolm Knowles, emphasizes the importance of a learning process that is relevant to real life and individual needs. It promotes active student engagement, which not only improves their communication skills but also builds their confidence to participate in academic and professional discussions.

The presence of students from various ethnic backgrounds is a crucial element that enriches the learning process. Multiethnic students bring a variety of cultural backgrounds, languages, and life experiences into the classroom. This diversity can influence learning dynamics, especially in communication and interaction<sup>[17]</sup>. Furthermore, empirical research on multiethnic students suggests a need for inclusive teaching methods that can accommodate diverse cultural and ethnic backgrounds<sup>[18]</sup>. Cultural and language differences can lead to misunderstandings and hinder effective communication<sup>[19]</sup>. A tangible example of this challenge is in curriculum management that can accommodate the ethnic, cultural, and socioeconomic diversity of students. For in-

stance, in a university in the Riau Islands region, it is crucial to develop a curriculum that considers the ethnic diversity of students, such as Malay, Chinese, Javanese, Batak, Minangkabau, and other ethnic groups. The need to provide additional modules or materials that cover the cultural and historical aspects of each ethnic group is essential to ensure equity in the learning experience. Preliminary observation data shows that the ethnic origins of students in the Riau Islands are categorized into several ethnic groups. The Malay ethnic group has the largest number, with 76 students (50.7%), indicating that the majority of students come from this group. The Batak ethnic group is second with 38 students (25.3%), showing a significant proportion, while the Javanese ethnic group is third with 29 students (19.3%). There are 18 students (12%) from the Minangkabau ethnic group, while other ethnic groups, such as Bugis (6 students or 4%), Dayak (3 students or 2%), Chinese (2 students or 1.3%), Indian (1 student or 0.7%), and other ethnic groups (14 students or 9.3%) are also represented.

Although there is extensive research on Problem-Based Learning, andragogy, and multiethnic education, few studies integrate these three concepts, revealing a research gap that needs to be explored. PBL can enhance communication skills through collaborative activities and presentations<sup>[20,21]</sup>. However, research focusing specifically on the development of speaking skills through PBL is still limited. Furthermore, adult learners are more responsive to approaches that value their experience and are relevant to their needs<sup>[22–25]</sup>. Culturally responsive teaching can increase student participation and understanding<sup>[26–29]</sup>. However, the application of these principles in developing speaking skills remains underexplored. Additionally, there is a lack of learning models that explicitly integrate Problem-Based Learning with andragogical principles to improve the speaking skills of adult students<sup>[26,27]</sup>. Furthermore, research examining the development of speaking skills in the context of multiethnic students using both PBL and andragogy is very limited. The main innovation of this study is the integration of these three key concepts to develop a speaking skills model that is not only problem-based but also relevant to the needs of adult learners and inclusive of ethnic diversity. This can make a significant contribution to the literature on higher education and learning practices.

In the context of a multiethnic region like the Riau Is-

lands, the application of a problem-based learning model also provides an opportunity to explore an adaptive approach that can enhance students' understanding of diverse sociocultural contexts. Students in a multiethnic environment face challenges in cross-cultural communication, including understanding differences in values, norms, and communication expressions from various ethnic groups. By using problem-based learning, students not only develop their speaking skills but also learn to appreciate the unique perspectives and experiences of their peers, which is a reflection of the global workplace. This makes the problem-based learning model relevant and effective for accommodating the learning needs in a multiethnic environment, where cultural awareness and adaptability are highly valued.

## 2. Literature Review

### 2.1. The Boundaries of Speaking Skills

Speaking skills are the ability to convey messages verbally in a clear, effective, and targeted manner. This skill involves the capacity to structure, articulate, and orally deliver thoughts and ideas<sup>[7,28,29]</sup>. Various experts have expressed their views on the nature of speaking skills. Speaking is a productive skill that involves the production of sound to express meaning<sup>[30]</sup>. It involves organizing thoughts cohesively, choosing appropriate words, and articulating sounds correctly<sup>[31–34]</sup>. Speaking skills also have a crucial social dimension. It is not just about delivering a message but also about interacting with others in various social contexts. This skill includes the ability to understand and respond to the audience's reactions and to adapt to different communication situations, such as informal conversations, group discussions, formal presentations, or debates. In a multiethnic context, speaking skills also involve an awareness of diverse cultural norms and communication etiquette. Speaking is closely related to critical and analytical thinking. To be an effective speaker, one must be able to analyze information, evaluate arguments, and develop new ideas relevant to the topic being discussed<sup>[35]</sup>.

### 2.2. The Boundaries of Andragogy

Andragogy, which in Greek means “leading adults,” is often contrasted with pedagogy, meaning “leading chil-

dren,” although the term andragogy was first used by Alexander Kapp, a German educator, in 1833. Malcolm Shepherd Knowles (1913–1997), an American educator, described andragogy as the art and science of adult learning, thus the term refers to any form of learning that involves adults. Unlike pedagogy, which focuses more on child education, andragogy emphasizes an approach tailored to the needs, experiences, and learning motivation of adults. First, adults need to be involved in the planning and evaluation of their own instruction, which increases their sense of responsibility and ownership of the learning process. Second, experience, including mistakes, serves as the basis for their learning activities. Third, adults are more interested in subjects that have direct relevance and real impact on their work or personal lives. Fourth, adult learning is more problem-centered than content absorption. These principles highlight the importance of a flexible and relevant approach in adult education that can meet their unique needs as adult learners<sup>[36–45]</sup>. Many models have been developed by scholars, such as reflective adult education framework model, reflection model, and experiential learning cycle model, which have enriched adult learning strategies<sup>[46–49]</sup>.

### 2.3. The Boundaries of Multiethnic Education

Multiethnic education has long historical roots, originating from the civil rights movement in the United States in the 1960s. During that time, the demand for equality and recognition of minority rights, especially for African-American groups, led to the birth of the concept of multicultural education, which later evolved into multiethnic education. This movement highlighted the systemic injustice in educational institutions, such as homogeneous curricula and the exclusion of minority cultures. Educators and academics began advocating for more inclusive educational reforms with the goal of acknowledging and integrating the history, cultures, and perspectives of various ethnic groups into the educational process<sup>[43,44]</sup>. The term “multiethnic” refers to the existence and interaction of various ethnic groups within a society or specific environment<sup>[45]</sup>. In multiethnic contexts, understanding how different cultures use context in communication is essential<sup>[46]</sup>. Meanwhile, developed a model of cultural dimensions that includes power distance, individualism vs. collectivism, masculinity vs. femininity, uncertainty avoidance, long-term vs. short-term orientation, and indul-

gence vs. restraint<sup>[47]</sup>. Identified seven cultural dimensions that influence cross-cultural interactions: universalism vs. particularism, individualism vs. communitarianism, specific vs. diffuse, neutral vs. emotional, achievement vs. ascription, sequential vs. synchronous time, and internal vs. external control<sup>[48]</sup>. These perspectives help in understanding how different values and norms affect interactions in a multiethnic context<sup>[19,49,50]</sup>. Experts in face-negotiation theory, explained how individuals from different cultures manage their identities in social interactions. Theoretically, multiethnic education evolved from various disciplines, including sociology, anthropology, and cultural studies. Critical theories, such as Critical Race Theory, have provided a foundation for multiethnic education by examining how power structures and cultural dominance affect educational access and experiences for ethnic minority groups. Experts like James Banks and Geneva Gay have contributed significantly to developing the theoretical framework for multiethnic education, which emphasizes the importance of inclusion, justice, and equality in education. Multiethnic education is not only considered a tool to overcome bias and discrimination but also as a way to empower all students through the recognition and celebration of ethnic and cultural diversity in society<sup>[51]</sup>.

### 2.4. Problem-Based Speaking Skills Learning

Problem-based speaking skills learning is an approach that combines problem-solving elements with the development of oral communication skills. The theoretical foundation of PBL stems from the concept of self-directed learning<sup>[52]</sup>. Barrows and Tamblyn argued that effective learning occurs when students are actively involved in finding solutions to real-life problems<sup>[53]</sup>. The problem-based learning model, or PBL, was introduced in 1969 at the Faculty of Medicine at McMaster University in Canada. It was later adopted by the University of Limburg in the Netherlands, the University of Newcastle in Australia, and the University of New Mexico in the United States before being introduced across various disciplines such as business, dentistry, health sciences, law, engineering, and education. In the context of speaking skills, PBL provides a rich environment for students to speak, discuss, and present their ideas<sup>[54]</sup>. This aligns with constructivist learning theory, where knowledge is built through social interaction and reflection on experience. Speaking skills themselves involve several aspects,

such as fluency, accuracy, rhythm, and clarity. The development of these skills requires continuous practice and proper guidance<sup>[55,56]</sup>. PBL provides a framework that supports this type of practice, as students are constantly faced with situations where they must communicate effectively. Research on speaking skills acquisition has yielded valuable insights in various studies. Smits-Bandstra & De Nil (2009) found that people who stutter (PWS) showed slower speech sequence initiation compared to fluent speakers during oral reading tasks. Developed a voice recognition system using a deep neural network to enhance English pronunciation training, demonstrating a high degree of accuracy<sup>[57]</sup>. The importance of basic phonological awareness and speech perception in noise skills for optimal literacy acquisition among English as a second language learners<sup>[58]</sup>. The effectiveness of simulation-based learning in improving the clinical skills of speech-language pathology students in managing stuttering, showing significant skill improvement during the program<sup>[59]</sup>. Additionally, the positive impact of a Talking Ball Game on improving speaking skills in students, enhancing the classroom environment and learning outcomes.

### 3. Materials and Methods

This study employs a research and development (R&D) approach. The model development design is based on the framework<sup>[60]</sup>. This research aims to develop a problem-based speaking skills model using an andragogical approach for multiethnic university students. The model is designed following six key components: syntax, social system, principles of reaction, support system, instructional impact, and nurturant impact. The prototype model and the resulting product were subjected to expert validation. In this study, the validation was conducted by five experts specializing in relevant fields, including speaking skills, learning media, content/material, curriculum and instructional models, and linguistics. The validation results and feedback provided by the validators were used to revise the product based on its content, language, and graphical feasibility. The validation assessment was categorized using Aiken's V validity coefficient.

This development research utilized a data collection technique to obtain comprehensive information about the development of the problem-based speaking skills model with an andragogical approach for multiethnic students. The data collection technique was a questionnaire for expert vali-

dation. The validation questionnaire was structured based on Indonesian Ministerial Regulation of National Education No. 2 of 2008 and used a rating scale to assess various aspects such as content, language, and graphics. Expert validation ensured that the product meets academic feasibility standards. The data analysis in this R&D study was conducted in accordance with the established research and development procedures. The analyzed data were quantitative, obtained from the validator assessment questionnaires. The validity test analysis involved calculating the average score from all validator responses using Aiken's V validity coefficient. The calculation of the Content Validity Coefficient is based on expert ratings of how well an item represents the construct being measured. The average Aiken's V score is categorized as valid if it is  $\geq 0.75$ <sup>[61]</sup>.

## 4. Results

### 4.1. Components of the Developed Model

The development of the Problem-Based Speaking Skills Model with an Andragogical Approach for Multiethnic Students is designed to enhance multiethnic students' speaking skills through an andragogical approach that emphasizes problem-based learning. A comprehensive overview of the components of this model can be seen in **Figure 1** below.

**Figure 1** below shows that the learning syntax consists of five stages: problem identification, problem exploration, solution formulation, presentation and reflection, and evaluation and follow-up. In addition, the model also focuses on the formation of self-reliance and learning responsibility, the creation of social networks and multiethnic collaboration, and the use of technology for continuous learning. The support system includes inclusive learning resources, learning technology, collaborative facilities, and lecturer mentoring, while the social system encompasses learning facilitation, group dynamics, and the strengthening of diversity. Furthermore, the principles of reaction in this model encourage student proactivity, independent problem-solving, and constructive feedback that is sensitive to multiculturalism, thereby creating a collaborative and inclusive learning environment. The nurturant impacts of this model development include the contextual strengthening of speaking skills, the development of critical and creative thinking, and an increase in empathy and cultural sensitivity.



Figure 1. Components of the Developed Model.

## 4.2. Problem-Based Learning Guide for Speaking Skills: A Case Study of Multi-Ethnic Debate

The application of a problem-based learning model for speaking skills, using an andragogical approach with multi-ethnic students, places the students at the center of the learning process. This model promotes active student participation, authentic problem-solving, and deep reflection, which is highly relevant in a multi-ethnic context. The following are the structured learning steps based on the chosen debate scenario: “Is Cultural Diversity in the Workplace More Beneficial or Challenging?”

### 4.2.1. Phase 1: Preparation (Pre-Speaking)

In this phase, the lecturer and students collaborate to establish a strong foundation. The lecturer begins by explaining the debate guidelines and ethics, ensuring all students understand the rules. Students are then divided into two teams: a Pro Team arguing that cultural diversity is beneficial, and a Con Team arguing the opposite. Each team is tasked with analyzing the motion in depth, gathering data, and developing a strategy. Students are encouraged to find facts and real-world case studies to support their positions, such as data from multinational corporations that show increased innovation due to diverse teams. This cultivates

critical thinking and research skills. Students are also asked to write an outline of their main arguments, supporting evidence, and rebuttal plans, which trains them in logical and systematic thinking.

### 4.2.2. Phase 2: Debate Execution (During-Speaking)

This phase is the core of the learning process, where students directly apply their speaking skills. The lecturer acts as a facilitator and an impartial judge, leading the speaking turn-taking and observing the course of the debate. The debate is divided into three main sessions:

- **Argument Presentation.** The Pro Team starts by presenting their main arguments, highlighting the benefits of diversity such as increased creativity and innovation. They use data and concrete examples to strengthen their position. Afterward, the Con Team presents their arguments, focusing on potential challenges like communication conflicts and misunderstandings.
- **Rebuttal.** This is the most dynamic part. Each team is given time to respond to the opponent’s arguments. The Pro Team might counter the Con Team’s claims about conflict by explaining effective conflict management strategies. Conversely, the Con Team can point out weaknesses in the Pro Team’s arguments about in-

novation with relevant examples.

- Conclusion. Both teams deliver brief closing statements to reinforce their positions and leave a strong impression on the audience. Throughout the debate, students are evaluated based on the clarity of their arguments, the use of data, speaking techniques (intonation, articulation, body language), and their ability to rebut the opponent's arguments.

#### 4.2.3. Phase 3: Evaluation and Reflection (Post-Speaking)

After the debate concludes, the learning process continues into a crucial reflection phase. The lecturer facilitates an evaluation session where students are asked to conduct a self-assessment. They reflect on their team's strengths and weaknesses, the speaking techniques they have mastered, and the areas that need improvement. The lecturer then provides structured feedback based on a scoring rubric. This feedback not only highlights successful points but also offers constructive suggestions for future improvement. Students

can also discuss in small groups to share their experiences. In this way, they not only learn from their own mistakes but also from the experiences of their peers.

### 4.3. Expert Validation of the Developed Model

#### 4.3.1. Content Feasibility

The development of the Problem-Based Speaking Skills Model with an Andragogical Approach is aimed at addressing challenges in developing speaking competence for multiethnic students. In this context, validation by experts is a crucial step to ensure that the content of the model book is relevant, systematic, and in line with andragogical principles and the needs of students from diverse ethnic backgrounds. The validation process was carried out by five validators with expertise in education, linguistics, multiethnic studies, and adult learning (andragogy). The validators assessed 25 statements related to the content feasibility of the model book on a scale ranging from 1 (strongly disagree) to 5 (strongly agree). The results are shown in **Table 1**.

**Table 1.** Content Feasibility.

No.	Statement	V (Aiken)	Category
1	This model has a clear learning syntax.	0.90	Valid
2	The level of syntax feasibility in the learning model is systematically arranged.	0.85	Valid
3	The role of the lecturer as a facilitator in the developed model is clearly visible.	1.00	Valid
4	The patterns of interaction between lecturers and students in this model are very clear.	0.95	Valid
5	The level of social system feasibility in the development model is quite high.	0.90	Valid
6	The principles of reaction designed are relevant to the syntax and social system.	0.90	Valid
7	The level of feasibility of the principles of reaction in the development model is quite high.	0.80	Valid
8	The designed support system is relevant to the syntax and social system.	0.85	Valid
9	The designed support system is in line with technological developments.	0.95	Valid
10	The role of the model's support system is quite high in relation to the planned principles of reaction.	0.95	Valid
11	The feasibility of this development model's support system is quite high.	0.90	Valid
12	In this model, the room for the development of knowledge aspects for students is quite broad.	0.95	Valid
13	In this model, the room for the development of attitude/character aspects for students is quite broad.	0.85	Valid
14	In this model, the room for the development of psychomotor aspects for students is quite broad.	0.95	Valid
15	The model does not contradict the principles of andragogy and multiethnic learning.	0.90	Valid

**Table 1** above shows that the content feasibility validation of the Problem-Based Speaking Skills Model book with an Andragogical Approach received a high average score of 0.91, which falls into the valid category. This indicates that the validators generally agree on the relevance and quality of the model book's content. Furthermore, the validation results show that validators gave the highest ratings to aspects related to rationality, objectives, empirical data, and theoretical relevance, while some other aspects such as needs analysis, interaction patterns, and principles of reaction require further refinement to be clearer and more

systematic.

#### 4.3.2. Linguistic Feasibility

The validation of linguistic feasibility was conducted to ensure that the language used in the Problem-Based Speaking Skills Model book with an Andragogical Approach is easy to understand, academic, and consistent with the rules of standard Indonesian. Validators assessed four main indicators: ease of comprehension, clarity and accuracy of wording, coherence and cohesion of paragraphs, and spelling conformity. The details can be seen in **Table 2**.

**Table 2.** Linguistic Feasibility.

No.	Statement	V (Aiken)	Category
1	The language used in this model's components is easy to understand.	0.90	Valid
2	The language used in the model's components is concise and accurate.	0.95	Valid
3	The paragraphs within the model's components are structured coherently and cohesively, meaning that the sentences within each paragraph have a logical and complete relationship of meaning and form.	0.95	Valid
4	The language used in the model's components is in accordance with the rules of good and correct Indonesian.	0.90	Valid

Based on the table above, it can be seen that the validators rated the language in the model book as very good, with an average Aiken's V validation score of 0.92, placing it in the valid category. However, some aspects still need improvement to be more effective and inclusive for multiethnic students. The language used in the model book was rated as fairly easy to understand, though some sections could still be simplified to improve clarity (average score of 0.90). Validators gave a positive rating to the statement on the clarity of wording, finding the language concise and accurate in conveying its meaning (average score of 0.95). This is important considering the target users are adult students from diverse ethnic and cultural backgrounds, so the information must be direct and to the point without compromising conceptual depth.

Furthermore, validators judged that the paragraph struc-

ture in the model book is generally coherent and cohesive, meaning that the ideas in each section are interconnected and form a logical, complete flow (average score of 0.95). Coherence and cohesion are crucial in a problem-based learning model, as a reader's ability to understand the relationship between concepts will affect how they apply theory to real-world situations.

### 4.3.3. Graphic Feasibility

The validation of the graphic feasibility of the Problem-Based Speaking Skills Model book with an Andragogical Approach aimed to evaluate the visual and physical design aspects that affect user comfort and alignment with the learning theme. Validators assessed eight main indicators, including typeface, font size, color, capitalization, cover design, paper quality, and printing standards (Table 3).

**Table 3.** Graphic Feasibility.

No.	Statement	V (Aiken)	Category
1	The typeface used is appropriate, consistent, and easy to read.	1.00	Valid
2	The font size in the model book is appropriate.	0.95	Valid
3	The font color in the model book is appropriate.	1.00	Valid
4	The use of uppercase and lowercase letters in the model book is appropriate, consistent with standard spelling rules.	0.90	Valid
5	The front cover design of the model book is attractive and relevant to the developed model's theme.	0.85	Valid
6	The back cover design of the model book is relevant to the front cover and supports the message of the developed model.	0.90	Valid
7	The front and back covers of the model book use appropriate paper.	1.00	Valid
8	The model book uses standard-colored paper for learning purposes.	0.95	Valid
9	The model book is printed according to standard quality.	1.00	Valid

Based on the table above, it can be concluded that the validators rated the graphic feasibility of the model book as very good, with an average Aiken's V score of 0.95, placing it in the valid category. Validators stated that the typeface used in the model book is highly appropriate, consistent, and easy to read, with an average score of 1.00. This is an important finding, as an appropriate typeface can significantly enhance reading comfort, especially for adult students who often work with long texts.

## 5. Discussion

One crucial aspect of this model's validity is its ability to integrate the principles of andragogy, which emphasize learning from experience, material relevance, student autonomy, and learning readiness<sup>[62,63]</sup>. This is reflected in the PBL syntax design, which consists of stages for problem identification, problem exploration, solution formulation, presentation and reflection, and evaluation and follow-up<sup>[42,64]</sup>.



With this approach, the model not only helps students improve their technical speaking abilities but also strengthens their contextual understanding in real-world situations.

Another critical aspect of the model's validity is its ability to specifically address the challenges arising from the multiethnic context of the Riau Islands. Validators appreciated the use of case studies relevant to local cultural dynamics, such as interethnic communication conflicts or cross-cultural interactions. This approach allows students to connect theory and practice with their personal experiences, which is vital for facilitating the understanding and application of speaking skills in a diverse environment. Consequently, the model not only teaches technical speaking but also fosters cultural sensitivity and adaptability in communication amidst differences. The model was also found to be effective in reducing public speaking anxiety, which is often experienced by multiethnic students. The collaborative and non-hierarchical learning environment, a hallmark of andragogy, creates a safe space for students to explore and make mistakes without fear of judgment. Validators underscored that this atmosphere is essential for reducing stigma and stereotypes that may hinder effective communication, especially for students whose native language is not Indonesian. The courage to speak will increase along with the comfort and support they feel during the learning process<sup>[65,66]</sup>.

The validation also emphasized that the model significantly enhances students' self-directed learning. By assigning reflection tasks, learning journals, and problem-based group projects, students are encouraged to take responsibility for their own learning process. This is a key element in andragogy that aligns with experiential learning theory. The ability to independently reflect on one's speaking style, accept constructive feedback, and identify areas for improvement is the foundation for continuous speaking skill development, even beyond the academic environment<sup>[66]</sup>.

Furthermore, the model explicitly supports the development of crucial 21st-century competencies (4Cs) needed in the global workforce. The integration of Problem-Based Learning (PBL) and andragogy helps students hone their critical thinking skills through problem analysis, cross-cultural collaboration in finding solutions, effective communication skills through presentations and discussions, and creativity in formulating new approaches. Validators confirmed that the model's design enables students to become not only better

speakers but also adaptive and innovative problem-solvers.

This learning model also has validity in supporting the principle of lifelong learning. By emphasizing self-reflection, continuous evaluation, and real-life contextual relevance, students are trained to view speaking skill development as an ongoing process, not limited to their study period<sup>[65]</sup>. The validation shows that the model instills the awareness that learning is a continuous journey, preparing students to keep improving their communication skills in various professional and social contexts after graduation.

The external validity of the model is strengthened by its alignment with global cross-cultural education research and recommendations. The principles underlying this model are not only locally relevant but also consistent with best practices in inclusive and diversity-responsive education<sup>[67,68]</sup>. This provides additional confidence that the model is not only effective for the Riau Islands context but also has the potential to be applied or adapted in other multiethnic environments.

The strength of this model also lies in the well-validated design of the lecturer's guide book and the student's textbook. The easy-to-understand, academic, and linguistically correct Indonesian language ensures accessibility for all users. The systematic presentation, with a logical flow from problem identification to evaluation, makes it easy for lecturers to implement the model and for students to follow the learning process. The use of rich case studies relevant to the multiethnic context is a significant added value, making the material not only informative but also engaging and relatable for students from diverse backgrounds.

The model's validation demonstrates that its design successfully addresses these challenges by offering a solution tailored to different cultural backgrounds, languages, and communication styles. This means that the validated model is not only theoretically viable but also has high practical potential to significantly enhance the participation and speaking skills of multiethnic students. Thus, this problem-based speaking skills learning model with an andragogical approach has high validity, both in terms of its theoretical construct, instructional design, and practical classroom implementation. The main recommendation from the validators is to continue enriching the variety of case studies and strengthening the multiethnic context in each chapter to optimize the relevance and depth of learning.

This research substantially enriches the literature on the integration of andragogical and problem-based learning (PBL) approaches in language instruction, especially for adult learners in multiethnic environments. It fills a knowledge gap by demonstrating how adult learning principles, which emphasize experience and relevance, can be effectively applied to address linguistic, psychological, and cultural challenges. Furthermore, a prominent theoretical contribution is the development of a modified PBL syntax. This syntax is specifically designed to be more responsive to cross-cultural learning needs<sup>[27,28]</sup>. This modification ensures that the model not only facilitates the mastery of speaking skills but also actively fosters cultural sensitivity and empathy among students from diverse ethnic backgrounds.

For lecturers, this model serves as a valuable practical guide for designing instruction that is not only inclusive and interactive but also focused on real-world problem-solving. The highly validated lecturer's guide makes the model's implementation easier and more systematic, enabling lecturers to create a learning environment conducive to the holistic development of speaking skills. Meanwhile, students will experience increased motivation and active engagement in the learning process because the material is presented through case studies relevant to their multiethnic reality, making learning feel personal and meaningful. This approach effectively reduces public speaking anxiety and increases participation as students feel more comfortable and motivated to share their perspectives in a supportive environment. From an educational policy perspective, this research provides a strong empirical foundation. Policies for improving the quality of language instruction in diverse environments should consider multiethnic aspects and adopt collaborative, reflective, problem-based learning approaches. This will ensure that the educational system focuses not only on achieving linguistic competence but also on shaping students' character to be tolerant, adaptable, and capable of communicating effectively amidst cultural diversity.

## 6. Conclusions

This research successfully developed a problem-based speaking skills model with an andragogical approach that is valid and relevant for language learning in a multiethnic environment in the Riau Islands. Based on the data anal-

ysis and discussion, it can be concluded that the Problem-Based Speaking Skills Model with an Andragogical Approach is feasible and relevant to andragogical principles and the multiethnic context. This study makes a significant contribution to the educational literature and teaching practices, particularly in the context of speaking skills instruction for multiethnic students. Based on the research findings, the Problem-Based Speaking Skills Model with an Andragogical Approach for Multiethnic Students has been proven to be highly effective and valid for implementation in second and third language classes. This model specifically addresses challenges in multiethnic contexts by focusing on adult learning principles (andragogy), such as material relevance, student autonomy, and experiential learning. Through a modified Problem-Based Learning (PBL) syntax, the model not only enhances linguistic competence and reduces public speaking anxiety but also fosters 21st-century skills like critical thinking, cross-cultural collaboration, and cultural sensitivity. Therefore, the model is more than just a tool for improving speaking skills; it is a holistic approach that shapes students into more tolerant, adaptable, and communicatively competent individuals in diverse environments. The implication of this research is that it enriches the literature on integrating andragogical and problem-based approaches in language instruction, especially for adult learners in multiethnic settings.

## Author Contributions

Conceptualization, D. and S.R.; methodology, H.A.; and D.; formal analysis, D.; investigation, H.A.; resources, S.R.; data curation, D.; writing—original draft preparation, D.; writing—review and editing, D.; visualization, H.A.; supervision, S.R.; project administration, D.; funding acquisition, D. All authors have read and agreed to the published version of the manuscript.

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Not applicable.

## Data Availability Statement

The research data is stored in Excel format and can be made available upon request to the journal.

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## Conflicts of Interest

The authors declare no conflict of interest.

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