



Learning Design Utilizing Discord Platform and Jigsaw Strategy to Effectively Enhance Students' Listening Skills

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A B S T R A C T

The advancement of digital communication platforms has transformed the landscape of language learning, providing new opportunities for interactive and collaborative instruction. This study aims to describe the learning design that utilizes the Discord platform integrated with the Jigsaw strategy to enhance students' listening skills in English language learning. The research was conducted within the Postgraduate Program in Learning Technology at the State University of Malang. The background of this study lies in the need to create engaging and student-centered learning environments that improve active participation and comprehension in listening activities. This study employs a descriptive qualitative approach with data collection methods including observation, interviews, and documentation. The findings indicate that the combination of Discord and the Jigsaw strategy encourages effective communication, peer collaboration, and contextual learning experiences. Students actively participate in group discussions, share comprehension results, and practice listening in authentic digital environments. Moreover, the integration of Discord facilitates flexibility and interaction beyond the classroom, allowing continuous feedback and monitoring by instructors. The implementation of this design successfully enhances students' listening comprehension, motivation, and digital literacy. Overall, the study demonstrates that integrating collaborative digital platforms such as Discord with cooperative learning strategies like Jigsaw can significantly improve language learning outcomes in higher education contexts.

Abstrak

Perkembangan platform komunikasi digital telah mengubah lanskap pembelajaran bahasa, memberikan peluang baru untuk pembelajaran yang interaktif dan kolaboratif. Penelitian ini bertujuan untuk mendeskripsikan desain pembelajaran yang memanfaatkan platform Discord yang diintegrasikan dengan strategi jigsaw untuk meningkatkan keterampilan menyimak siswa dalam pembelajaran bahasa Inggris. Penelitian ini dilakukan pada Program Pascasarjana Teknologi Pembelajaran Universitas Negeri Malang. Latar belakang penelitian ini berangkat dari kebutuhan untuk menciptakan lingkungan belajar yang menarik dan berpusat pada peserta didik guna meningkatkan partisipasi aktif serta pemahaman dalam kegiatan menyimak. Penelitian ini menggunakan pendekatan kualitatif deskriptif dengan metode pengumpulan data berupa observasi, wawancara, dan dokumentasi. Hasil penelitian menunjukkan bahwa kombinasi antara Discord dan strategi jigsaw mendorong komunikasi yang efektif, kolaborasi antarpeserta, serta pengalaman belajar yang kontekstual. Siswa secara aktif terlibat dalam diskusi kelompok, berbagi hasil pemahaman, dan berlatih menyimak dalam lingkungan digital yang autentik. Selain itu, integrasi Discord memfasilitasi fleksibilitas dan interaksi di luar kelas, memungkinkan umpan balik dan pemantauan berkelanjutan oleh pengajar. Penerapan desain ini terbukti berhasil meningkatkan pemahaman menyimak, motivasi, dan literasi digital siswa. Secara keseluruhan, penelitian ini menunjukkan bahwa integrasi platform digital kolaboratif seperti Discord dengan strategi pembelajaran kooperatif seperti jigsaw dapat secara signifikan meningkatkan hasil pembelajaran bahasa di konteks pendidikan tinggi.

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1. Introduction

The rapid advancement of technology and communication has transformed the educational landscape globally, and Indonesia is no exception. The emergence of Industry 5.0 has brought significant challenges to the education system (Tarhan, Ayyıldız, Ogunc, & Sesen, 2013), compelling institutions to integrate innovative technologies into teaching and learning processes. This transformation has led to the widespread adoption of terms such as blended learning, hybrid learning, and flipped classroom, which represent new pedagogical approaches combining online and offline learning modalities (Richardson & Vecchi, 2002). While these approaches offer flexibility and accessibility, they also present challenges related to instructional effectiveness, efficiency, and learner engagement. Therefore, it becomes essential to design learning models that can meaningfully incorporate diverse media and strategies to meet the evolving needs of modern learners.

Learning design is a systematic process that involves identifying learning needs and objectives, developing appropriate instructional media (Gao, Yao, Liu, Liu, & Wang, 2010), and implementing effective strategies to achieve learning outcomes efficiently. The integration of technology into instructional design can enhance learning effectiveness and lead to optimal educational results. Within this framework, the Jigsaw strategy emerges as a cooperative learning method that promotes active student engagement, collaboration, and comprehension through structured group activities. Empirical studies have shown that this strategy (Cho, Avidan, & Freeman, 2010), when applied effectively, can significantly improve students' learning achievements across various subjects.

In the context of the current "digital era" (zaman now), educators face the demand to effectively utilize Information and Communication Technology (ICT) in classroom settings. Teachers are expected to bring innovation into their classrooms by integrating technology to enhance both engagement and learning efficiency (van Wezel et al., 2007). However, the use of multiple applications—such as WhatsApp for communication, Zoom or Google Meet for synchronous learning, and institutional platforms for assignment submissions—often leads to fragmented learning experiences. This fragmentation can hinder students' focus and reduce learning continuity. In response, this study explores the utilization of Discord (Yao & Shao, 2003), a communication platform initially developed for online communities, as an integrated learning tool within a structured learning design framework proposed.

Argues that transforming educational technology to align with the demands of the Fourth and Fifth Industrial Revolutions is both an urgent and complex task. Discord, with its multifunctional features—such as text and voice channels, screen sharing, and organized learning spaces—offers potential as a comprehensive Learning Management System (LMS) (Zhu et al., 2021). A comparative indicates that Discord surpasses other platforms like Zoom, Webex, Google Meet, and Telegram in terms of flexibility (Higaki et al., 2016), user interaction, and accessibility. Its ability to support simultaneous communication and collaboration aligns well with the cooperative learning model of the Jigsaw strategy.

Furthermore, several studies confirm that Discord's unique features—such as multiple discussion channels and seamless communication—enhance classroom interactivity and promote collaborative learning (Gassner, Baase, & Matthews, 1996). Its use in language education has shown promising results (Kosiba, Devaux, Balasubramanian, Gandhi, & Kasturi, n.d.), particularly in improving skills such as listening, and vocabulary acquisition. These findings suggest that integrating Discord with structured learning designs and cooperative learning strategies can bridge the gap between technology and pedagogy.

Building upon the instructional design theory (Walker & Crogan, 1998), this study develops a learning design that integrates Discord and the Jigsaw strategy to improve students' listening skills (Gorg et al., 2013). The proposed model follows three main stages: (1) analyzing learning conditions, (2) developing learning strategies, and (3) establishing outcome measurement procedures. Each stage considers the dimensions of effectiveness, efficiency, and attractiveness to ensure optimal learning experiences.

This paper aims to present a comprehensive design of technology-based learning using Discord and the Jigsaw strategy to enhance students' listening skills in higher education. By aligning pedagogical strategies with digital tools, this study contributes to the growing body of knowledge on instructional innovation in the era of Industry 5.0, offering insights into how collaborative technologies can be effectively integrated into modern education systems.

2. Methods

This study employed a developmental research design that combines technology-based learning with the sequential steps of instructional design proposed by Degeng & Degeng (2018). The development model integrates the use of a Learning Management System (LMS), specifically Discord, to improve the effectiveness, efficiency, and engagement of learning in the *Critical Listening* course. The instructional design follows a systematic process consisting of eight stages: (1) analysis of learning objectives and content characteristics, (2) analysis of learning resources, (3) analysis of student characteristics, (4) formulation of learning objectives and content, (5) determination of organizational strategies for learning materials, (6) determination of delivery strategies, (7) determination of management strategies, and (8) development of procedures for measuring learning outcomes. The research population included fourth-semester students enrolled in the *Critical Listening* course at UIN Maulana Malik Ibrahim Malang. The sample comprised 36 students, divided into several testing scales: two students for the small-scale trial, five for the medium-scale trial, and ten from class AK as well as nineteen from class ICP for the large-scale implementation. These stages were conducted to evaluate the feasibility of the developed learning design based on indicators of effectiveness, efficiency, and attractiveness.

Data were collected through multiple instruments, including (1) an instructional design assessment sheet, (2) a Likert-scale questionnaire (1–4) to evaluate the use of Discord as a learning medium, (3) student response questionnaires, and (4) pre-test and post-test assessments to measure learning outcomes. Supporting data were also obtained from fieldnote observations and semi-structured interviews conducted with both students and lecturers to explore their experiences and challenges in implementing the learning design. The data analysis was carried out using a combination of quantitative and qualitative techniques. Quantitative data from the Likert-scale responses and test scores were analyzed descriptively to determine the mean, percentage, and level of effectiveness. Qualitative data from observations and interviews were analyzed using an interpretive-descriptive approach to identify themes, patterns, and constraints in the implementation of the Jigsaw-based learning design. The qualitative validation process was conducted through member checking, peer discussions among researchers, and data triangulation to ensure the credibility and reliability of the findings.

3. Results and Discussion

Results

Content Expert Validation

Validation by content experts for the learning content in the classroom has been conducted in collaboration with Mr. Harir Mubarak, M.Pd, the lecturer in charge of the *Critical Listening* course at UIN Maulana Malik Ibrahim Malang. The content of this instructional design aligns with the course's

learning outcomes and objectives. Various presentation methods were employed during this validation to achieve the learning goals, as outlined in the following table:

Table 1. Contnet Expert Validation

No.	Indicators	Skala			
		1	2	3	4
1	Alignment of Content with Learning Outcomes				V
2	Alignment of Content with Learning Goals				V
3	Clarity in Material Delivery				V
4	Opportunity for Material Analysis				V
5	Alignment of Videos with Meeting Themes				V
6	Inclusion of Differentiated Learning				V
7	Appropriateness of Given Questions				V
8	Inclusion of Exercise Questions				V
9	Sequential Individual or Group Assignments				V
10	Ease of Access to Provided Content				V

Content expert validation is conducted using a rating scale, with 1 point for "strongly disagree," 2 points for "disagree," 3 points for "agree," and 4 points for "strongly agree." This validation process has been tailored to the characteristics of students, media usage, and the current conditions. The primary goal of content expert validation is to ensure that the content of the instructional design for this course aligns with the learning objectives, making it effective, efficient, and engaging in achieving the objectives of each student.

Validation by Design Expert

Validation by design experts is carried out to evaluate the retention of the instructional design using Discord. Attractiveness is considered a key factor in achieving Critical Listening learning and capturing the attention of students during the learning process. The design expert validation is assessed by Prof. Dr. Dedi Kuswandi, M.Pd, an expert in design and lecturer in Educational Technology. The following is the validation sheet used by the design expert:

Table 2. Design Expert Validation

No.	Indicators	Scale			
		1	2	3	4
1	Alignment with Instructional Design Principles				V
2	Effectiveness in Capturing Student's Attention				V
3	Relevance of Content to Learning Objectives				V
4	Alignment with Student Needs and Characteristics				V
5	Integration Between Online and Offline Learning				V
6	Ease of Access and Navigation on the Discord Platform				V
7	Alignment with Instructional Design Principles:				V
8	Effectiveness in Capturing Student's Attention				V
9	Relevance of Content to Learning Objectives				V
10	Alignment with Student Needs and Characteristics				V

Design expert validation is elucidated using the following description, where 1 point indicates "strongly disagree," 2 points for "disagree," 3 points for "agree," and 4 points for "strongly agree." The design expert validation confirms the feasibility of utilizing the Discord learning design employing the Jigsaw strategy in the teaching and learning process, especially for the Critical Listening course.

Product Small-Scale Testing

The small-scale product testing involved applying the same teaching method and learning design that would be tested with the research class. This small-scale product testing was implemented with

two students of English Language Education majoring in Critical Listening. The designated Jigsaw method and strategy were employed to enhance their critical listening skills.

Tabel 3. Product Small Scale Testing Results

No.	Name	Presentage	Notes
1	M. Asyam Albana	93.75%	Learning Design is Very Feasible
2	Tiara Nadiya Itabi W.	100%	Learning Design is Very Feasible

The results of the small-scale product testing obtained responses with an average percentage above >80%, indicating that the learning design is effective, efficient, and engaging. Consequently, it can proceed to the medium-scale product testing.

Medium-Scale Product Testing

Medium-scale product testing was conducted with five students majoring in English Language Education in the Critical Listening course, using the same methods and strategies as those to be tested, with the following results.

Table 4. Results of Medium-Scale Product Trial

No.	Name	Presentage	Notes
1	Achmad Dhoni Septian	87.5%	Learning Design is Very Feasible
2	Falih Shafiu Rozaq	81.25%	Learning Design is Very Feasible
3	Maulidya Rofadinda	100%	Learning Design is Very Feasible
4	Muhammad Yunus	93.75%	Learning Design is Very Feasible
5	Rahma Lia Indah	93.75%	Learning Design is Very Feasible

The results of the medium-scale product testing yielded responses with an average percentage above >80%, indicating that the learning design is effective, efficient, and engaging. Consequently, it can proceed to the large-scale product testing.

Large-Scale Product Testing

Large-scale product testing is the final stage before conducting field research. The large-scale testing was conducted with five students majoring in English Language Education in the Critical Listening course, using the same methods and strategies as those to be tested, with the following results

Table 5. The Results of Large-Scale Product Testing

No.	Nama	Presentase	Keterangan
1	Inda Permatasari	81.25%	Learning Design is Very Feasible
2	Muh. Iqbal Amrullah	93.75%	Learning Design is Very Feasible
3	Nadia Khoirun Nisa'	75%	Learning Design is Feasible
4	Nabela Ardama Cherya K.	87.5%	Learning Design is Very Feasible
5	Farisma Nadhrotun N,	93.75%	Learning Design is Very Feasible
6	Chintya Ainun Nabilla	87.5%	Learning Design is Very Feasible
7	Nayla Amalia Latifah	100%	Learning Design is Very Feasible
8	Khumairo Qurrotu'ain	100%	Learning Design is Very Feasible
9	Rusydiana An Nahar	68.75%	Learning Design is Feasible
10	Rahmat Hidayat R.	75%	Learning Design is Feasible

The results of the large-scale product testing garnered responses with an average percentage above >80%, indicating the success of the large-scale testing and allowing for the continuation of field research. Some respondents expressed different opinions regarding the use of the Jigsaw learning strategy as they were already familiar with it and found it effective in enhancing critical listening skills among students in this research.

The learning process in the Critical Listening class is divided into two activities, namely online and offline. The learning process is structured according to the syllabus (RPS) designed with a blended learning model. The learning process is also scheduled alternately, following the online and offline

learning schedule. The first and third meetings are conducted online for delivering materials and group discussions, held on Discord to capture key points in the given learning materials

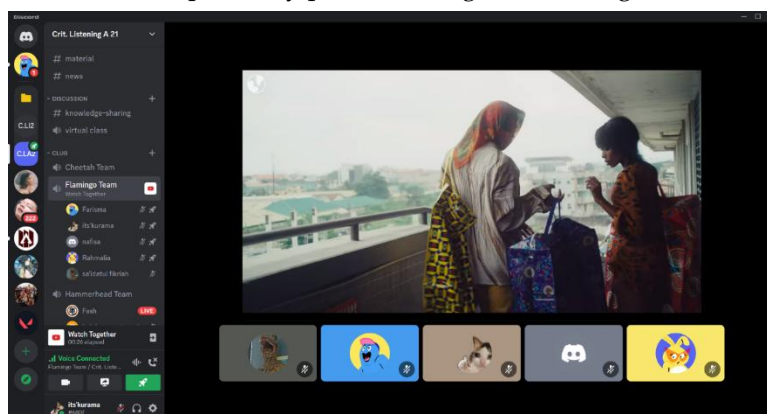


Figure 1. Display of Jigsaw Learning Strategy in Discord

The offline (face-to-face) learning takes place in the classroom with the Jigsaw strategy, continuing from the offline activities in the second and fourth weeks. The offline activities involve group presentations where each group shares the findings summarized from the previous online learning sessions



Figure 2. Presentation Activities Using the Jigsaw Strategy

The listening process in this activity is a crucial aspect of the critical listening teaching and learning process. Findings from this activity contribute to the improvement of listening skills. Additionally, the Jigsaw learning strategy can also enhance writing and speaking skills among students in the class.

Research Questionnaire Analysis

The research on this learning design was conducted over four meetings spanning four weeks with 19 students majoring in English Language Education. The questionnaire for the learning design using Discord and the Jigsaw strategy was divided into three aspects: 1) Emotional Engagement, 2) Behavioral Engagement, 3) Cognitive Engagement. The rating scale ranged from one (strongly disagree) to four (strongly agree).

The Emotional Engagement aspect was used to evaluate the attractiveness of using the learning design with Discord in both online and offline classes. The questionnaire included the following questions;

Table 6. The Questionnaire's Results of Emotional Engagement

No.	Indicators	1	2	3	4
1	I feel that this learning design adapts to the needs of modern education.			2	17
2	I feel comfortable participating in discussions and class activities.			10	9
3	I feel that this learning design provides a more enjoyable learning experience.				19

4	I feel that the use of technology in learning (for example, videos and the Discord learning platform) helps me learn better.	1	18
5	I feel enthusiastic and motivated to attend classes with this learning design.	7	12
Total		19 Participants	

Attractiveness is a crucial point in this learning design to captivate students' retention or to create its own appeal in the teaching and learning process. The average student responses indicate strong agreement regarding the learning design used. The survey results show that the learning design used is in line with the needs and conditions of students today. The behavioral engagement aspect is used to assess the efficiency of the learning process using Discord as an LMS in both online and offline classes. The questions in this aspect included:

Table 7. Questionnaire's Results of Behavioral Engagement

No.	Indicators	1	2	3	4
1	I feel helped by the clarity and consistency of the instructions and tasks given.			9	10
2	I utilize the given time well and work effectively during the learning process.			8	11
3	The ease of accessing Discord helps me learn anywhere.			11	8
4	I take advantage of the environmental factor, being untethered, for my comfort in learning.			5	14
5	I can easily access the class in Discord (such as viewing teaching materials, information, and submitting assignments) from various devices			6	13
Total		19 Participants			

"Explanation of the second survey content is related to the efficiency of using Discord learning design with the Jigsaw strategy in teaching and learning. The findings indicate that participants agree with the use of this learning design. Efficiency is the main goal of this learning design, ensuring ease of access to learning that allows students to study anywhere, adapting to their needs and environmental factors.

The content of cognitive engagement is conducted to assess the effectiveness of the learning process using the Discord learning design and Jigsaw strategy in improving critical listening skills. The questions in this content are as follows:

Table 8. Questionnaire's Results Cognitive Engagement

No.	Indicators	1	2	3	4
1	I feel that I have a better understanding of the learning material after taking this class.			11	8
2	I feel that the learning material is presented in a way that facilitates my understanding.			10	9
3	I feel ready to face exams or assignments related to this learning material after taking this class.			12	7
4	I feel that the critical listening course helps me improve my writing skills.			5	14
5	I feel that the critical listening course helps me improve my speaking skills.			3	16
Total		19 Participants			

Effectiveness of using this learning design has findings as shown in the table above. Students, on average, believe that the use of Discord in critical listening education can assist students in studying

with technology in various academic fields. Additional findings also state that the Jigsaw strategy in this learning can enhance students' writing and speaking abilities in English.

Analysis of Learning Results Using Discord

The feasibility test of using Discord learning design and the Jigsaw strategy is assessed from two different situations on the same subject or group in the ICP class, consisting of 19 students. The feasibility test of learning outcomes was conducted using the paired sample t-test method for pre-tests and post-tests, with the hypotheses as follows:

- H_0 = with a significance level (<0.05) states that there is a significant difference between the initial variable and the final variable. There is a significant influence on the differences in treatment given to each variable.
- H_1 = with a significance level (>0.05) states that there is no significant difference between the initial variable and the final variable. There is no significant influence on the differences in treatment given to each variable.

The learning outcomes test is compared between the first variable with the treatment of not using the Discord learning design and the Jigsaw strategy and the second variable with the treatment of using the Discord learning design and the Jigsaw strategy.

The demand to find the adjusted structure of cooperative learning strategies -such as the jigsaw- was essentially not a new idea. This need on purpose to increase the maximal implementation of these strategies in science learning in developing areas, and this includes Indonesia. This need had also been addressed by Farah in the interview when she was asked to provide feedback and reflection about the jigsaw learning (R8). She said that the jigsaw does not fit the learning situations in her school. The structure is complicated for her students. So, she supposed that the jigsaw structure should be simpler to make it more applicable in her classroom.

Table 9. Correlation Test

Paired Samples Test									
		Paired Differences			95% Confidence Interval of the				
		Mean	Std. Deviation	Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	PRE & POST TEST	-17.21053	10.25009	2.35153	-22.15091	-12.27014	-7.319	18	.000

The paired sample T-test also indicates the significance and correlation results between the pre-test and post-test values in this study. The significance value from the calculated significance test is less than 0.05, specifically 0.000, where H_0 is accepted. This implies that there is a significant difference regarding the use of the learning design with Discord and without Discord.

All the five constraints that had brought the unsuccessful implementation of the jigsaw affirm that this learning strategy was not feasible in the Indonesia educational settings. These constraints (Dyken, 2002), however, are actually not surprising as these are prevalent in Indonesia (Clayton et al., 2011). Previous studies had identified similar constraints that influenced the low viability of the inquiry-based learning (IbL) -another type of cooperative learning strategy- in some areas in this country (O'Leary, Wattison, Edwards, & Bryan, 2015). These included time limitation, learning facilities such as classrooms and laboratory, a large number of students, teachers' competency in using the IbL, and teachers' beliefs on the importance of the IbL.

Discussion

The analysis of the objectives and characteristics in this study is based on the evolving needs and conditions of education, particularly in the context of the rapidly advancing 21st-century generation, predominantly comprised of Generation Z and Alpha (Souvignier & Kronenberger, 2007). The effective,

efficient, and engaging learning objectives serve as the primary foundation for this research (Paumard, Picard, & Tabia, 2020). The use of captivating technology is crucial to ensuring that learning is accessible anytime, anywhere. Therefore, *Discord* was chosen as the Learning Management System (LMS) to connect students and lecturers in the teaching and learning process.

The analysis of the objectives and characteristics of this study is based on the needs and conditions of education, as well as the evolving generation in the 21st century (Souvignier & Kronenberger, 2007). The 21st-century generation, filled with Generation Z and Alpha, has developed in tandem with the rapid growth of information and communication technology (Sanaie, Vasli, Sedighi, & Sadeghi, 2019). The main foundation of this research is effective, efficient (Garcia, 2021), and engaging learning objectives. The use of appealing technology also serves as the key to enabling learning access from anywhere and at any time (Hoff & Olver, 2014). Therefore, *Discord* has been chosen as the Learning Management System (LMS) and the platform connecting students and lecturers in the teaching-learning process.

The selection of materials that truly align with the designated media is a crucial initial step. In addition to presenting materials that are easily understood, this involves using simple (WOODWARD, 2009), communicative (Abou elazm et al., 2020), and clear language. It should engage students' thought processes (Chworos et al., 2004), allowing them to achieve a level of mastery independently (Mora-Jimenez, Ramírez-Benavides, Quesada, Lopez, & Guerrero, 2022). Once the learning objectives and characteristics have been identified, the analysis of learning resources follows. The breakdown of this analysis focuses on combining several elements to make the class effective, efficient (Arango-Caro et al., 2025), and engaging. Learning resources are derived from YouTube in the form of instructional videos corresponding to each meeting's theme. Themes include "The Best Place in The World," "Movie Recap," "Technology and Future," and "Arts (이윤우 & Kyoung Gun Han, 2018)." These learning resources can be accessed through *Discord* on the class server and designated channels. Generation Z and Alpha have grown up alongside technology, making them accustomed to accessing information anywhere and anytime (Campbell et al., 2019). The ease of access allows students to choose a learning environment that suits their needs (Johnson & Salter, 2022). The integration of technology in education is not unfamiliar to students in the current era, providing convenience in accessing educational content.

The fourth step involves establishing learning objectives and content (Ion & Popescu, 2025). Based on the content of the Critical Listening course (Robinson, 2023), the objectives aim to enhance students' critical listening skills and their ability to transform information into new thoughts (Pérez-Mamani, Condor-Fabian, Barrantes-Arias, Lee Huamani, & Ramos-Cosi, 2025), whether in writing or speech. These learning objectives are closely tied to the effectiveness, efficiency (Antaki, 2021), and attractiveness of the applied strategies in the class. The organizational strategy for delivering learning content is managed through *Discord* as the Learning Management System (Blundell, 2024). The choice of organizational strategy is influenced by the type of learning content and the structure of the instructional design (Boutsikaris & Polykalas, 2025). The design implemented in *Discord*, using the Jigsaw strategy, adopts a blended learning model to maximize the use of technology and adapt to the learning preferences of each student. The class organization system is fully configured on the *Discord* LMS for the teaching and learning process.

Setting the delivery strategy builds on the analysis of learning resources. Drawing inspiration from previous critical listening instruction, the watch-and-review film activity has proven effective in enhancing students' listening skills (Sun & Abdul Aziz, 2024). Consequently, new and more effective, efficient, and engaging delivery strategies were designed to improve listening skills in line with technological advancements (Iskandar, Mansyur, Ansari Saleh Ahmar, Muliadi, & Abdul Rahman, 2023). The delivery strategy involves a blended learning approach, incorporating both online and offline learning. The online learning component is further described as follows;

Emphasizing the ease of accessing classes. This online learning process constitutes the first stage of the Jigsaw strategy. Students can access the class from anywhere at predefined times (Sumandya,

Widana, Suryawan, Handayani, & Mukminin, 2023). The implementation of online learning takes place during odd weeks according to the scheduled learning process. The ease of accessing information is also a crucial aspect of the learning process. The online activities are conducted for group discussions, each focusing on specific instructional video content.

The classroom learning flow occurs at scheduled times, following the class timetable. During the face-to-face sessions, students continue activities initiated during the online phase. Each group has discussed, watched, and recorded their instructional videos (Vasalou et al., 2022), which they then present to the class (Indrawari, Ninghardjanti, Wirawan, & Dirgatama, 2020). The critical listening process extends into the second stage of the Jigsaw strategy (Tomas, Cross, & Campbell, 2018). This stage emphasizes the points presented by other groups, requiring students to take notes on the information conveyed during the listening process (Tomas et al., 2018). Face-to-face teaching and learning occur during even weeks according to the course schedule.

The recommendation of this study emphasizes that the determination of appropriate management strategies should be based on a thorough analysis of student characteristics (Nersäter, 2019). The findings reveal that students actively integrate technology into both their daily lives and learning activities (Olesen, 2018). In this context, **Discord** has emerged as an effective platform that supports modern teaching and learning processes. Its cross-platform capabilities greatly enhance students' access to educational content anytime and anywhere (Almutairi & Alsuwayl, 2023). Following the design of the learning process, the final stage involves evaluating its effectiveness through systematic testing and implementation (Nersäter, 2019). The research evaluation is conducted in three phases—small-scale, medium-scale, and large-scale trials—to assess the feasibility and effectiveness of the developed instructional design, serving as a foundation for further research development.

4. Conclusion

The findings of this study, following the validation and multi-scale testing processes, demonstrate that the learning design integrating the Discord platform with the Jigsaw strategy is both appropriate and effective for use in higher education contexts. The integration of these elements enhances the learning process by making it more effective, efficient, and engaging. The results reveal that the application of this learning design leads to noticeable improvements in students' performance during both online and offline learning sessions. Additionally, the assessment of emotional, behavioral, and cognitive engagement indicates positive learner responses, suggesting that the design successfully supports active participation and deeper learning experiences.

In practical terms, this framework can be applied to various language learning contexts where collaboration and interactivity are essential components. The combination of Discord's digital communication features with the structured cooperative learning approach of the Jigsaw strategy provides an innovative and adaptable model for educators seeking to optimize engagement and comprehension in digital classrooms. For future research, it is recommended to further explore the potential of integrating Discord with other learning strategies or disciplines, as well as to examine its long-term effects on student motivation and academic achievement. In light of the continuous advancement of technology, embracing blended and technology-enhanced learning approaches remains a crucial step toward fostering innovation and sustainability in modern education.

Declarations

Author Contribution Statement

Iqbal Ramadhan was responsible for the conceptualization, research design, and drafting of the initial manuscript. Made Duanda Kartika Degeng contributed to the validation, data analysis, and critical revision of the manuscript. Hendry Praherdhiono provided supervision, methodological guidance, and final review of the manuscript. All authors have read and approved the final version of this manuscript.

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Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Declaration of Interests Statement

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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