**Research Article**

# Innovation in Indonesian Vocabulary Learning through Interactive PowerPoint Media for Arabic-Speaking Students

Mohammad Ahsanuddin[1], Nur Anisah Ridwan[2], Fatiya Faza Khabibatul Ilmi[3], Nainisa Nur Prastiwi[4], Najma Auliya' Maulidah Ahsan[5]

[1] Universitas Negeri Malang, Indonesia
[2] Universitas Negeri Malang, Indonesia
[3] Universitas Negeri Malang, Indonesia
[4] Universitas Negeri Malang, Indonesia
[5] Universitas Negeri Malang, Indonesia

**Corresponding Author:**

Mohammad Ahsanuddin,
Universitas Negeri Malang, Indonesia
Jl. Cakrawala No.5, Sumbersari, Kec. Lowokwaru, Kota Malang, Jawa Timur 65145
Email: mohammad.ahsanuddin.fs@um.ac.id

**Abstract**

Arab students learning Indonesian often struggle to memorize new vocabulary, even though vocabulary is the foundation of language. This challenge is exacerbated by the lack of engaging learning media tailored to everyday contexts. This study aimed to improve students' vocabulary mastery by using interactive PowerPoint slides. Conducting two cycles, the Classroom Action Research (CAR) involved participants from the Indonesian Language and Literature (BIPA) class at Malang State University to assess the impact of this new medium. The instruments used included written tests, direct observation, questionnaires, and other supporting documents. The final analysis revealed significant results: the average score jumped from 56.2 in the pre-test to 78.6 in the post-test in the second cycle, and the completion rate increased from 40% to 88%. Students responded positively, reporting that interactive PowerPoint slides increased motivation and engagement during the lesson. These findings suggest that slides designed for everyday contexts may be a strategic alternative for teaching Indonesian vocabulary to non-native speakers.

**Keywords:** Classroom Action Research, Indonesian for Foreign Speakers, Interactive PowerPoint

**INTRODUCTION**

Vocabulary mastery is the main pillar in learning a second language, supporting every pillar of language techniques such as listening, speaking, reading, and writing (Ahmadi & Hairul, 2019; Nation, 2021). In Indonesian for Foreign Speakers classes, especially those taught by Arabic-speaking students at Indonesian universities, an adequate vocabulary is often a stumbling block, affecting both academic activities and daily interactions. Despite instructors' attempts at various strategies, vocabulary acquisition remains hampered because the exercises are too routine, text-based, and lack stimulating elements (Bianchi & Marenzi, 2019). On the other hand, Arab students who come from a language and culture that is very different from Indonesian clearly need a more contextual, visual, and communicative learning method so that each word can be truly remembered and used (Alqahtani & Abdullah, 2020). Therefore, innovation in vocabulary presentation remains urgent, requiring the integration of linguistic data with an understanding of the mindset and learning preferences of today's digital generation.

Arab students who study Indonesian at university often get stuck with a limited vocabulary, and this immediately interferes with the way they understand lectures, converse with lecturers and friends, or express ideas in oral and written form. Even though the Indonesian Language for Foreign Speakers program—BIPA—includes mastering new words as a mandatory part, the teaching method is still very conventional and rarely makes use of applications or digital tools that are small scale and easy to adapt (Fadilah & Sari, 2021). The behavior of the class method with the way of thinking and learning style of foreign students then makes them quickly lose interest, so that the words that have been taught are easily forgotten (Cerezo et al., 2019). Not to mention, the teaching materials and media used are usually not specifically designed to help students pick up vocabulary across two different cultures and two different languages (Zou et al., 2019). With such a picture, it is urgent to re-design teaching strategies that are more innovative, interactive, and in tune with the characteristics of Arab students studying on Indonesian campuses.

Based on the identified problems, this study intends to explore and analyze how effective interactive PowerPoint slides are in helping Arabic-speaking students master Indonesian vocabulary (Ellis & Shintani, 2020). In other words, this research spans the design, implementation, and evaluation of a vocabulary learning model that is structured visually, interactively, and relevant to the life context of international students. Using a Classroom Action Research approach, the research team hopes to delve deeper into how visual elements, sound, and interactive activities in a PowerPoint package transform lessons into more engaging, meaningful, and ultimately foster the mastery of new words. In the long term, the results of this work are intended to be an alternative Indonesian language teaching strategy for non-BIPA speakers that is easily accepted and adapted by universities throughout the country, especially amidst the growing diversity of cultural and academic backgrounds of international students.

In previous studies on teaching Indonesian for Foreign Speakers (BIPA), great attention has been given to vocabulary techniques and strategies, but generally learning still revolves around texts or lectures, without adequate interactive media support (Rosiyana, 2020). Several evaluations have examined the role of digital media, but few have examined the extent to which interactive PowerPoint actually aids vocabulary acquisition, especially among Arabic-speaking students. Furthermore, studies that utilize visual media often fail to consider students'

linguistic and cultural backgrounds, factors that can significantly influence how they perceive, remember, and use meaning in real-world situations (Trimansyah, 2021). There has not been any action-based assessment, or classroom action research, that directly measures the effects of interactive media in a lively BIPA classroom, so there is still quite a gaping methodological space (Burns & Westmacott, 2021). Therefore, this study aims to fill this gap, offering empirical evidence and practical recommendations for the development of more efficient, adaptive, and contextual vocabulary strategies for foreign students, especially Arabic speakers.

This study offers a novel contribution to the development of Indonesian Language for Foreign Speakers (BIPA) teaching by introducing a context-specific interactive PowerPoint presentation aimed at strengthening the vocabulary of Arabic-speaking students. Rather than relying on repetition and memorization like traditional methods, the material combines images, sounds, and animations tailored to the profile of foreign learners, encouraging active participation and more meaningful mastery. This innovation not only makes the material more communicative and engaging but also supports classroom action plans that allow teachers to directly assess the effectiveness of the strategies implemented (Chapelle & Sauro, 2020). The rationale behind this research stems from the urgent need to improve the quality of BIPA teaching in higher education within the context of the internationalization of education, while addressing the lack of appropriate media for international students. Therefore, it is hoped that these findings will provide empirical evidence and a pedagogical model that can be easily replicated in other BIPA institutions, as well as encourage technology-based language teaching practices that are sensitive to the diversity of student backgrounds.

## RESEARCH METHOD

This study adopted a Classroom Action Research (CAR) model with the aim of improving Indonesian vocabulary mastery among Arabic-speaking students, through the application of interactive PowerPoint media. The action design adopted follows the Kemmis and McTaggart framework, which divides the process into four cyclical steps: (1) planning, (2) action, (3) observation, and (4) reflection (Kemmis et al., 2020). This research was conducted in two cycles, and each cycle included two meetings.

### Research Instruments

The instruments used in this study include (Dörnyei & Csizér, 2021):

1. The vocabulary test was designed as a pre-test and post-test tool to measure the understanding and application of Indonesian words taught to students.
2. The observation sheet functions to record how active students and lecturers are in the learning process so that each step can be monitored.
3. The student response questionnaire was useful for exploring their perceptions and satisfaction with the use of interactive PowerPoint media during lectures.
4. Field notes record class dynamics, students' spontaneous reactions, and all non-verbal things that emerge during the learning session.

### Research procedures

The investigation begins with planning, which involves compiling teaching materials, developing interactive PowerPoint presentations, and preparing measurement tools. The action phase involves implementing the learning scenario and immediately observing the activities of lecturers and students. In the observation phase, quantitative and qualitative data are collected

using the prepared instruments. The reflection results are analyzed, then successes and shortcomings are assessed, and this information is used to improve the next cycle.

## Data collection technique

Data collection was carried out using several techniques, namely:

1. written test to see the improvement of students' vocabulary before and after the action.
2. direct observation during learning with structured observation sheets.
3. A closed questionnaire was distributed to students after the action to capture their perceptions about media use.
4. Informal interview sessions and field notes were taken to strengthen the insights from the observations and questionnaires.

## Data Analysis Techniques

Quantitative data from the pre- and post-tests were analyzed descriptively to calculate averages, achievement percentages, and learning completion. Meanwhile, qualitative data from observations, questionnaires, and field notes were analyzed using thematic analysis, which identified patterns, trends, and student responses throughout the action cycle. Overall validity was strengthened through triangulation of sources and methods, as well as discussions with the review team.

## RESULTS AND DISCUSSION

### First Cycle Results

The first cycle began with a pre-test aimed at assessing the Arabic-speaking students' initial vocabulary skills in Indonesian. The results showed that most of them still struggled to understand and use basic words both on campus and in everyday conversation. The average pre-test score was only 56.2, and only ten of the twenty-five participants, or 40 percent, met the Minimum Completion Criteria of 70. With this data, instruction continued using interactive PowerPoint slides that presented vocabulary through images, animations, and hands-on exercises to further engage students.

Two meetings later, a post-test was conducted to determine whether the steps had worked. Although improvements were apparent, the average score only reached 69.4, and only fifteen students, or 60 percent, passed the Minimum Competency (KKM). This meant that ten students remained undecided. Classroom observations indicated that engagement was improving, especially when the lessons included moving images and quick quizzes. However, time remained limited for detailed review of each slide, and a handful of participants remained silent during group discussions. These findings were used as a basis for developing improvements in the following cycle.

**Table 1.** Results of the First Cycle Pre-Test and Post-Test

| No | Aspect | Pre-Test | Post-Test 1 |
|----|--------|----------|-------------|
| 1 | Average value | 56.2 | 69.4 |
| 2 | Number of students ≥ KKM (70) | 10 | 15 |
| 3 | Percentage of completion (%) | 40% | 60% |
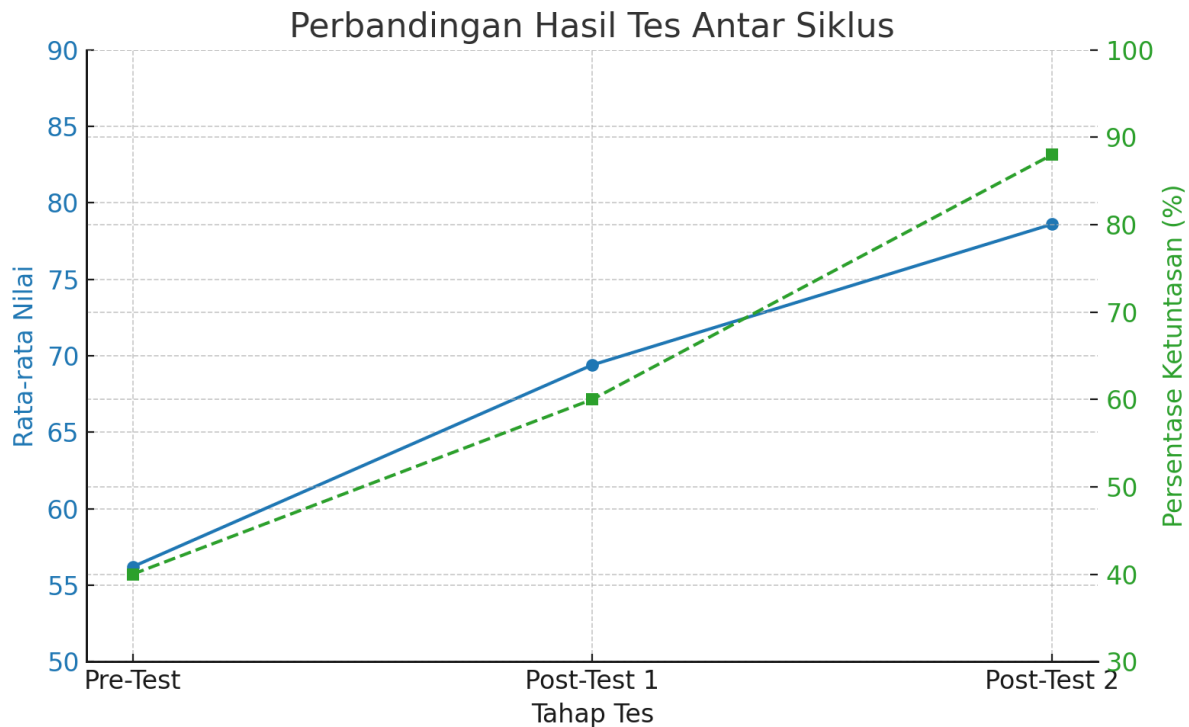
Below is a cross-cycle graph showing the average scores and percentage of Arabic-speaking students' learning completion in Indonesian vocabulary acquisition during the pre-test, first-cycle post-test, and second-cycle post-test. The graph shows consistent improvement, both in the cognitive aspects of the scores and in the competency standard achievement indicator, namely the percentage achieving a minimum score of 70.

To complement the quantitative data obtained from the test results, the researchers also distributed a closed-ended questionnaire to 25 students to assess their perceptions of the use of interactive PowerPoint media during learning. The questionnaire results were analyzed using standard descriptive techniques, and findings included: the majority of respondents felt that interactive slides facilitated comprehension, accelerated vocabulary acquisition, and made the class more engaging.

| No | Statement | Agree (%) |
|----|-----------|-----------|
| 1 | Interactive PowerPoint media makes it easier for me to understand the meaning of new vocabulary. | 92% |
| 2 | I find it more interesting to learn vocabulary with visual/audio displays. | 88% |
| 3 | Interactive media helps me remember vocabulary longer. | 84% |
| 4 | I feel more confident using vocabulary in sentences. | 88% |

**Analysis of Findings from the Questionnaire**

More than 85 percent of students expressed positive assessments of the ease, appeal, and effectiveness of the media used. The highest level of agreement was with the fifth statement—up to 96 percent—which expressed the hope that the media would continue to be used in future classes. This means that interactive PowerPoint slides not only lead to higher test scores but also foster motivation, confidence, and overall learning satisfaction.

**Inter-Cycle Improvement Analysis**

Quantitative data shows that Arabic-speaking students' mastery of Indonesian vocabulary continues to grow from one cycle to the next. In the pre-test, the average score was only 56.2, with a completion rate of 40 percent. After the first cycle with interactive media, the average score rose to 69.4, with a completion rate of 60 percent. This increase indicates that the new method is beginning to help students grasp and retain vocabulary. However, some students still fell below the minimum standard, necessitating a change in strategy in the second cycle.

After the media and learning strategies were overhauled, post-test scores in the second cycle showed much clearer progress. The average score reached 78.6, while the completion rate soared to 88 percent, nearly reaching the 100 percent target. From the pre-test to the second post-test, the average score jumped 22.4 points, with a 48 percent increase in completion. Observations supported these figures: students appeared more engaged, and questionnaires revealed they felt helped and more motivated when learning using interactive PowerPoint slides. These findings confirm that learning with visual and interactive media can effectively strengthen vocabulary mastery, especially for foreign learners from different cultures and languages.

Table 3. Comparison of Learning Outcomes Between Cycles

| No | Aspect | Pre-Test | Post-Test 1 | Post-Test 2 |
|----|--------|----------|-------------|-------------|
| 1 | Average value | 56.2 | 69.4 | 78.6 |
| 2 | Number of students ≥ KKM (70) | 10 | 15 | 22 |
| 3 | Percentage of completion (%) | 40% | 60% | 88% |

**Discussion**

Research shows that the use of interactive PowerPoint slides significantly increased the Indonesian vocabulary of Arabic-speaking students. Initial data showed a pre-test average of 56.2, which increased to 69.4 after the first cycle, and then jumped to 78.6 in the second post-test. This improvement in scores was also reflected in the completion rate: initially, only 40% of participants passed, but by the end of the second cycle, the figure had jumped to 88%. These results indicate that the consistent use of interactive PowerPoint slides is more effective than traditional teaching. Furthermore, there was increased engagement: class discussions became more lively, students responded actively to the moving images, and they competed to complete the quizzes. A satisfaction survey distributed at the end of the activity showed that the majority felt the visuals and animations provided were helpful. In other words, this analysis provides strong support for the idea that visual and interactive media-based materials can accelerate vocabulary acquisition, especially in the context of Indonesian as a second language for non-native speakers (Barcroft, 2007).

The results of this study are in line with Stephen Krashen's assumptions about second language acquisition, especially the J Hypothesis, which emphasizes that students will master a language more quickly if they receive input that can be understood in real situations.(Krashen & Mason, 2021). The interactive PowerPoint exposure applied in this experiment acts as a visual and contextual stimulus so that students can associate new vocabulary with images more clearly. In addition, Nation's four-strand vocabulary model - input that focuses on meaning, output that focuses on meaning, learning that focuses on language, and building fluidity - also supports the effectiveness of this pictorial slide-based approach (Nation, 2021). With a

combination of text, illustrations, animations, and clickable exercises, students not only receive meaning directly but also apply it in verses and concise speaking tasks, while simultaneously touching on aggressive and receptive skills (Godwin-Jones, 2019). Thus, emerging evidence suggests that teaching tools that involve multiple senses and allow active interaction are capable of accelerating and deepening vocabulary acquisition, especially for non-native speakers faced with large linguistic and cultural gaps.

The findings of this study indicate that interactive PowerPoint slides significantly improve Indonesian vocabulary mastery among Arabic-speaking students. The advantage of this medium lies in the contextual integration of images, text, sound, and animation, so that new vocabulary is presented in a real-world context and is easy to understand. Unlike monotonous lectures or exercise books, interactive multimodal PowerPoint presentations maintain attention, support memory, and increase student active engagement.(Hsu, 2019)With this medium, students not only hear new words but also use them through quizzes, sentence completion, and light and group discussions. This finding aligns with the layered principle stated by Mayer & Fiorella (2021) in multimedia learning theory, which recommends the simultaneous use of visual and verbal channels. For Arabic speakers facing differences in sound and structure, the interactive slides serve as a bridge between language input and understanding meaning. Furthermore, this media is easily shared online, can be replayed at any time, and remains suitable for teaching BIPA in both face-to-face classes and technology-based higher education.

The level of engagement and positive response of Arabic-speaking students to the use of interactive PowerPoint media is one indicator of the success of the actions taken in this study. Based on the results of the questionnaire, more than 90% of students stated that this media helped them understand the meaning of vocabulary more easily and enjoyably. As many as 88% felt more confident in using the vocabulary learned in sentence contexts, and 96% wanted this method to continue to be used in future lectures. These findings were reinforced by classroom observations that showed increased student verbal participation, enthusiasm when answering interactive quizzes, and the emergence of initiatives in using new vocabulary in group discussions (Kalyuga & Liu, 2015). This high level of positive response can also be explained through sociolinguistic and psychopedagogical perspectives: Arabic-speaking students generally demonstrate a learning style that is more responsive to visual and hands-on approaches (Lai & Zheng, 2018), especially in learning a second language that has a different phonological and morphosyntactic structure from their mother tongue (Al-Balushi & Al-Abdali, 2020)In this context, interactive PowerPoint acts as a mediating tool that can bridge linguistic and cultural barriers, while creating a more participatory and meaningful learning experience (Levy & Steel, 2019; Mahdi, 2018)Thus, the use of this media not only functions as an instructional tool, but also as a means to build students' emotional and cognitive involvement in the vocabulary acquisition process (Montero Perez et al., 2014).

This study demonstrates several methodological and practical strengths that are worthy of attention by researchers and educators. First, the application of a Classroom Action Research (CAR) design creates a cycle of reflection and continuous improvement, so that the findings become not only a theoretical map but also guidelines that can be directly applied in the classroom (Nurhayati & Widodo, 2022)Second, interactive PowerPoint slides are designed based on contextual analysis and the needs of Arabic-speaking students, making them a pedagogically relevant teaching tool that supports the cultural identity of participants (Plass et

al., 2020). The combination of quantitative data from exam results and qualitative data collected through observations, questionnaires, and field notes enriches the interpretation and provides a comprehensive picture of the impact of the actions. However, this study does have several limitations that require readers to be cautious when drawing broader conclusions. The limited number of participants in this study, which included only one class at one institution, limits the generalizability of the findings to the BIPA student population nationally or internationally. Furthermore, while PowerPoint can be dynamically modified, it is less flexible than web or mobile applications, which are available 24/7 and can be adjusted to suit individual learning rhythms (Pujadas & Muñoz, 2019; Rahmawati, 2021). Finally, the short duration of the intervention precluded monitoring long-term effects on vocabulary retention, an important phenomenon in language learning (Rodgers & Webb, 2011; Sari & Handayani, 2020). Therefore, future studies with a larger number of students, integration of more varied digital platforms, and a longer measurement period are highly recommended to strengthen and expand the generalizability of the research results.

The findings of this study offer valuable contributions to both the theory and practice of developing Indonesian language learning for Foreign Speakers (BIPA). Theoretically, the results support the assumption that a picture-based approach and real-life interactions accelerate vocabulary development, especially for students whose language backgrounds are significantly different from the target language (Schmidt, 2020; Stockwell & Hubbard, 2013). These findings align with the contextual and multimodal learning framework, which can serve as a reference for designing more adaptive teaching strategies. Practically, the use of simple, economical, and easy-to-create interactive PowerPoint presentations appears to be a viable innovative solution for BIPA classes, especially in institutions with limited technological resources. Therefore, BIPA lecturers and program managers can use the findings of this study as a guideline when designing more engaging, participatory, and responsive learning sessions to meet their students' needs. These findings also offer a foundation for curriculum development and teacher training, oriented toward the effective and relevant use of digital media (Kusmiatun, 2021). With this definition, the study addresses the challenges of second language teaching in the digital age while encouraging the broader internationalization of Indonesian language education (Alam et al., 2022).

While this study reports improvements in Indonesian vocabulary through interactive PowerPoint, several limitations should be noted. First, the sample size of a single group of Arabic-speaking students at a single institution limits the applicability of these findings to a broader population (Sweller et al., 2019). Second, the short timeframe and implementation of only two learning cycles is not sufficient to assess vocabulary retention over a longer period or to see whether the vocabulary appears in other skills, such as speaking and writing (Vandergrift & Baker, 2015). Third, while interactive PowerPoint is more dynamic than static slides, it is still less flexible, more difficult to access on certain devices, and not as interactive as web platforms or other advanced mobile learning applications (Wahyuningsih & Pratiwi, 2021; Wibowo & Sutrisno, 2021). Furthermore, because the exercises were conducted in a structured classroom setting, the varying learning styles of individual students were not fully addressed. Fifth, all of these findings indicate the need for further studies with larger samples, more diverse materials, more complex digital technologies, and measurements of the long-term impact on general language proficiency.

Based on the findings and limitations, future research should involve a larger group of students from diverse institutions and language backgrounds to ensure more representative results. Furthermore, it is recommended that future studies evaluate more advanced interactive learning tools, such as mobile apps, dynamic web pages, or Learning Management Systems (LMS) that allow instructors to monitor student progress in real-time, rather than simple media (Chapelle & Sauro, 2020). Researchers also need to extend the intervention period to see the long-term impact on vocabulary retention and whether these gains translate into speaking or writing skills. Furthermore, an assessment of each non-native student's learning style and media preferences could be incorporated to create a more personalized and flexible approach. In this way, it is hoped that the results will not only add to the body of BIPA research but also provide practical inspiration for developing Indonesian language learning on the global stage (Yanguas, 2019).

## CONCLUSION

This study shows that when interactive PowerPoint is used in a step-by-step and contextualized manner, Arabic-speaking students acquire Indonesian vocabulary much more quickly. Data demonstrates that this approach improves test scores and learning completion rates, while also increasing students' participation, motivation, and confidence each time they use new words. The combination of images, sounds, and immediate exercises provides understandable input and encourages active engagement, two key elements emphasized in second language acquisition theory.

These findings serve as a practical reference for BIPA curriculum developers to make vocabulary learning models more adaptive and technology-based. However, the limited number of participants, short testing time, and single media selection mean there is still room for further exploration. Therefore, future researchers are advised to design more dynamic digital applications and measure their impact on other skills over a longer period. With further efforts, the results of this study have the potential to develop into concrete guidelines for creating more effective, applicable, and globally relevant Indonesian vocabulary teaching materials.

## AUTHOR CONTRIBUTIONS

*Look this example below:*
Author 1: Conceptualization; Project administration; Validation; Writing - review and editing.
Author 2: Conceptualization; Data curation; In-vestigation.
Author 3: Data curation; Investigation.
Author 4: Formal analysis; Methodology; Writing - original draft.
Author 5: Supervision; Validation.
Author 6: Other contribution; Resources; Visuali-zation; Writing - original draft.

## CONFLICTS OF INTEREST

The authors declare no conflict of interest

## REFERENCES

Ahmadi, MR, & Hairul, NI (2019). The importance of visual elements in second language vocabulary acquisition. International Journal of Applied Linguistics, 29(3), 389–405. https://doi.org/10.1111/ijal.12267

Al-Balushi, S. M., & Al-Abdali, N. S. (2020). Learning styles preferences among Arabic-speaking students in language acquisition. International Journal of Applied Linguistics, 30(2), 245–265. https://doi.org/10.1111/ijal.12287

Alam, GN, Mahyudin, E., Affandi, RN, Dermawan, W., & Azmi, F. (2022). Internationalization of Indonesian in ASEAN: An Indonesian Diplomatic Effort. Journal of Global Dynamics, 7(01), 25–53. https://doi.org/10.36859/jdg.v7i01.1039

Alqahtani, M., & Abdullah, A. (2020). Challenges faced by Arabic speakers learning Indonesian: A sociolinguistic perspective. International Journal of Language Studies, 14(3), 78–95. https://doi.org/10.24200/ijls.vol14iss3pp78-95

Barcroft, J. (2007). Effects of word and fragment writing during L2 vocabulary learning. Foreign Language Annals, 40(4), 713–726. https://doi.org/10.1111/j.1944-9720.2007.tb02890.x

Bianchi, F., & Marenzi, I. (2019). Investigating student choices in performing online tasks: A study on learning strategies and their effect on task performance. Interactive Learning Environments, 27(5–6), 655–674. https://doi.org/10.1080/10494820.2019.1579235

Burns, A., & Westmacott, A. (2021). Action research in language education: Current practices and future directions. Language Teaching Research, 25(4), 543–564. https://doi.org/10.1177/1362168819890945

Cerezo, L., Caras, A., & Leow, R. P. (2019). The effectiveness of guided induction versus deductive instruction on the development of complex Spanish gustar structures. Studies in Second Language Acquisition, 41(4), 771–799. https://doi.org/10.1017/S0272263118000232

Chapelle, C. A., & Sauro, S. (2020). Technology and language learning: Past, present, and future. The Handbook of Technology and Second Language Teaching and Learning, 1(1), 1–18. https://doi.org/10.1002/9781118914069.ch1

Dörnyei, Z., & Csizér, K. (2021). Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies. Applied Linguistics Review, 12(2), 289–308. https://doi.org/10.1515/applirev-2020-0086

Ellis, R., & Shintani, N. (2020). Exploring language pedagogy through second language acquisition research. Language Teaching, 53(2), 143–162. https://doi.org/10.1017/S0261444819000387

Fadilah, N., & Sari, M. (2021). Digitalization of Indonesian Language Learning for Foreign Speakers through Digital Platforms. Journal of Indonesian Language and Literature Education, 15(2), 89–102. https://doi.org/10.23887/jpbsi.v15i2.12345

Godwin-Jones, R. (2019). Emerging technologies for language learning: Mobile apps, social media, and gamification. Language Learning & Technology, 23(3), 1–17. https://doi.org/10.125/44684

Hsu, L. (2019). EFL learners' acceptance of technology-enhanced language learning: A mixed-methods study. Computer Assisted Language Learning, 32(7), 757–789. https://doi.org/10.1080/09588221.2018.1559109

Kalyuga, S., & Liu, T. C. (2015). Managing cognitive load in technology-based learning environments. Journal of Educational Technology & Society, 18(4), 1–13. https://doi.org/10.30191/ETS.201510_18(4).0001

Kemmis, S., McTaggart, R., & Nixon, R. (2020). The action research planner: Doing critical participatory action research. Educational Action Research, 28(3), 456–473. https://doi.org/10.1080/09650792.2020.1789594

Krashen, S., & Mason, B. (2021). The input hypothesis and its rivals: A comprehensive review. Applied Linguistics, 42(4), 567–589. https://doi.org/10.1093/applin/amab023

Kusmiatun, A. (2021). Competency-Based BIPA Curriculum Development in the Digital Era. Indonesian Journal of Linguistics, 39(2), 145–160. https://doi.org/10.26499/li.v39i2.234

Lai, C., & Zheng, D. (2018). Self-directed use of mobile devices for language learning beyond

the classroom. ReCALL, 30(3), 299–318. https://doi.org/10.1017/S0958344017000258

Levy, M., & Steel, C. (2019). Language learner perspectives on the functionality and use of electronic language dictionaries. ReCALL, 31(2), 179–196. https://doi.org/10.1017/S0958344018000174

Mahdi, HS (2018). Effectiveness of mobile devices on vocabulary learning: A meta-analysis. Journal of Educational Computing Research, 56(1), 134–154. https://doi.org/10.1177/0735633117698826

Mayer, R. E., & Fiorella, L. (2021). Principles for managing essential processing in multimedia learning. Educational Psychology Review, 33(1), 169–182. https://doi.org/10.1007/s10648-020-09559-1

Montero Perez, M., Peters, E., & Desmet, P. (2014). Vocabulary learning through viewing videos: The effect of two enhancement techniques. Computer Assisted Language Learning, 27(1), 26–44. https://doi.org/10.1080/09588221.2012.702746

Nation, ISP (2021). Learning vocabulary in another language: Recent developments and future directions. Language Teaching, 54(3), 339–359. https://doi.org/10.1017/S0261444821000012

Nurhayati, E., & Widodo, S. (2022). Implementation of Technology in BIPA Learning: Challenges and Opportunities. Journal of Educational Technology, 23(1), 34–47. https://doi.org/10.21009/jtp.v23i1.456

Plass, J. L., Moreno, R., & Brünken, R. (2020). Cognitive load theory and multimedia learning: Recent advances. Computers & Education, 158(1), 103986–103999. https://doi.org/10.1016/j.compedu.2020.103986

Pujadas, G., & Muñoz, C. (2019). Extensive viewing of captioned and subtitled TV series: A study of L2 vocabulary learning by adolescents. Language Learning Journal, 47(4), 479–496. https://doi.org/10.1080/09571736.2017.1301124

Rahmawati, I. (2021). Indonesian Language Learning Approach for Foreign Speakers (BIPA) Based on Cognate Culture. Edutama Education Journal, 8(1), 67–78. https://doi.org/10.30734/jpe.v8i1.3133

Rodgers, M. P., & Webb, S. (2011). The effects of captions on EFL learners' comprehension of English-language television programs. Applied Linguistics, 32(5), 551–572. https://doi.org/10.1093/applin/amr017

Rosiyana, R. (2020). Language Teaching and Second Language Acquisition in BIPA (Indonesian for Foreign Speakers) Learning. KORPUS Scientific Journal, 4(3), 374–382. https://doi.org/10.33369/jik.v4i3.13839

Sari, L., & Handayani, T. (2020). BIPA Learning with Visual Media: A Case Study of Middle Eastern Students. Journal of Language and Literature, 8(3), 178–192. https://doi.org/10.24114/jbs.v8i3.567

Schmidt, R. (2020). Attention, awareness, and individual differences in language learning. Second Language Research, 36(4), 445–467. https://doi.org/10.1177/0267658320930961

Stockwell, G., & Hubbard, P. (2013). Some emerging principles for mobile-assisted language learning. The International Research Foundation for English Language Education, 1(1), 1–15. https://doi.org/10.36892/tirfelle.v1i1.1

Sweller, J., van Merriënboer, J. J., & Paas, F. (2019). Cognitive architecture and instructional design: 20 years later. Educational Psychology Review, 31(2), 261–292. https://doi.org/10.1007/s10648-019-09465-5

Trimansyah. (2021). Trends in Interactive Learning Media. FITRAH Journal of Educational Studies, 12(1), 13–27. https://doi.org/10.24952/fitrah.v12i1.3456

Vandergrift, L., & Baker, S. (2015). Learner variables important for success in L2 listening comprehension in French immersion classrooms. Foreign Language Annals, 48(1), 24–39. https://doi.org/10.1111/flan.12129

Wahyuningsih, S., & Pratiwi, D. (2021). The Effectiveness of Interactive PowerPoint Media in

Learning Indonesian Vocabulary. *Journal of Education and Learning, 28*(1), 45–58. https://doi.org/10.17977/um047v28i1p45-58

Wibowo, A., & Sutrisno, B. (2021). Analysis of Indonesian Vocabulary Learning Difficulties in Arab Students. *Journal of Indonesian Language Education, 9*(2), 123–135. https://doi.org/10.30659/jpbi.v9i2.789

Yanguas, I. (2019). L2 vocabulary learning and teaching: The role of multimedia and interactive technologies. *Systems, 87*(1), 102150–102165. https://doi.org/10.1016/j.system.2019.102150

Zou, D., Huang, Y., & Xie, H. (2019). Digital game-based vocabulary learning: Where are we and where are we going? *Computer Assisted Language Learning, 32*(5–6), 546–570. https://doi.org/10.1080/09588221.2018.1566271