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Analysis of Quizizz-Assisted Natural and Social Sciences (IPAS) Learning in Relation to Learning-Style Preference Categories of Fifth-Grade Students at SD Inpres Perumnas Palu

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Abstract

This study explored Quizizz-assisted Natural and Social Sciences (IPAS) learning in relation to learning-style preference categories among fifth-grade students at SD Inpres Perumnas Palu. A qualitative descriptive design was used. Thirty students were invited to complete a learning-style questionnaire, and 28 responses were used to identify visual, auditory, and kinesthetic categories. One student from each category and the classroom teacher participated in classroom observations, semi-structured interviews, and documentation. Data were analyzed through data reduction, data display, and conclusion drawing. The visual-category participant was particularly engaged by images, colors, animations, and the leaderboard. The auditory-category participant described Quizizz as enjoyable but still relied on direct teacher explanations to understand new material. The kinesthetic-category participant was more active during the quiz activity and responded positively to competition, although teacher guidance remained important. At the class level, Quizizz supported an active formative-assessment atmosphere, but limited Chromebook availability and unstable internet connectivity constrained implementation. These findings are context-specific descriptions of participants' preferences and experiences; they do not demonstrate that matching instruction to learning styles improves learning outcomes.

Keywords: Quizizz, Natural and Social Sciences (IPAS), Learning-Style Preferences, Formative Assessment, Elementary School

INTRODUCTION

Indonesia's national education framework emphasizes the development of learners' knowledge, skills, character, and potential (Republic of Indonesia, 2003). In elementary education, Natural and Social Sciences (IPAS) learning is expected to connect scientific and

social concepts with students' everyday experiences and active participation. Studies of science and social-science learning similarly stress the importance of meaningful, contextual, and varied learning activities rather than relying only on verbal exposition (Irrubai, 2023; Pahru et al., 2025).

Digital learning media can support this goal when they are integrated with clear instructional purposes. Quizizz is a game-based platform that can present questions, immediate feedback, time limits, points, and leaderboards in a shared classroom activity. Studies have described Quizizz as a medium that can make quiz-based learning more interactive and enjoyable; however, its contribution depends on teacher facilitation, the learning objective, and the conditions in which it is used (Hidayatullah & Haifaturrahmah, 2025; Lim & Yunus, 2021; Rizkullah et al., 2025).

In Indonesian elementary-school settings, several studies have reported positive associations between Quizizz use and students' engagement or learning outcomes in particular classroom contexts (Al Mawaddah et al., 2021; Annisa & Erwin, 2021; Lestari et al., 2024; Nirmalasari & Susanti, 2023). These studies provide useful background for the present research, but they do not establish that Quizizz has the same effect for every learner or every school context. Differences in available devices, internet access, teacher mediation, and the purpose of the activity can shape how students experience the platform.

The present study therefore does not position Quizizz as a stand-alone solution. Broader research on technology-supported personalized learning suggests that digital tools are most useful when their design and implementation respond to learners' actual needs and classroom conditions, rather than merely adding technology to an existing lesson (Major et al., 2021). In social-science education, meaningful learning is likewise associated with active engagement, contextual relevance, and opportunities to construct understanding through varied learning activities (Irrubai, 2023).

This study examines students' reported preferences during Quizizz-assisted learning through visual, auditory, and kinesthetic categories. These categories have long been discussed in educational literature and are frequently used in Indonesian studies to describe variation in how learners prefer to engage with information (Barbe et al., 1979; DePorter & Hernacki, 2000; Wahyuni, 2017). Recent Indonesian studies also describe the use of these categories to map learner variation and inform differentiated classroom planning (Andriani & Nugraheni, 2024; Himmah & Nugraheni, 2023; Muslihin, 2024; Qondias, 2025). Nevertheless, the categories are used here only as a descriptive basis for participant selection and interpretation. They are not treated as fixed cognitive profiles, and the study does not test whether instruction should be matched to a particular learning style. Reviews of adaptive e-learning and learning-style evidence indicate that such matching claims require caution (Katsaris & Vidakis, 2021; Pashler et al., 2008).

Preliminary observations at SD Inpres Perumnas Palu suggested that students did not respond to Quizizz-assisted activities in identical ways. Some appeared especially interested in visual and competitive features, whereas others emphasized the importance of direct teacher explanations. Accordingly, this study aimed to describe how selected fifth-grade students representing visual, auditory, and kinesthetic questionnaire categories experienced Quizizz-assisted IPAS learning and to identify the practical constraints encountered during implementation. The study asks: (1) How did the selected participants respond to Quizizz-

assisted IPAS learning? and (2) What implementation challenges were identified by the participants and the classroom teacher?.

RESEARCH METHOD

This study employed a qualitative descriptive design to explore students' experiences during Quizizz-assisted IPAS learning. A qualitative approach was selected because the study sought to describe participants' perceptions, observable responses, and classroom conditions rather than to test a causal effect or compare learning outcomes statistically (Sugiyono, 2015).

The study was conducted in one fifth-grade class at SD Inpres Perumnas Palu, Palu, Central Sulawesi, Indonesia. Thirty students were enrolled in the class; however, 28 students completed the learning-style questionnaire because two students were absent during data collection. The questionnaire was used only to support participant classification and selection; it was not treated as the primary source of findings.

The questionnaire results identified eight students in the visual category, twelve in the auditory category, and eight in the kinesthetic category. One student from each category was selected purposively according to two criteria: the highest score in the relevant questionnaire category and willingness to participate in observation and interview activities. The three selected student participants and the fifth-grade classroom teacher constituted the primary sources of qualitative data. Because the participant group was small and purposively selected, the findings are not intended to be generalized to all fifth-grade students.

Four instruments were used: (1) a learning-style questionnaire, (2) an observation guide, (3) a semi-structured interview guide, and (4) documentation. The questionnaire was adapted from Barbe et al. (1979) and was reviewed by subject-matter experts before use. Its role was limited to identifying the participants' dominant visual, auditory, or kinesthetic questionnaire category. The observation guide recorded students' attention, participation, interaction with Quizizz, responses to the leaderboard, and technical constraints. The interview guide explored the students' and teacher's perceptions of the learning process. Documentation included classroom photographs and supporting learning materials.

Data collection proceeded in four stages. First, the questionnaire was administered to identify potential participants. Second, one student from each learning-style category was selected purposively. Third, classroom observations were conducted during IPAS learning. The teacher introduced the lesson, provided explanations through direct instruction, question-and-answer activities, and learning videos, and then used Quizizz as a formative-assessment and learning-reflection activity. The teacher also provided technical assistance when students encountered difficulties accessing the platform. Finally, semi-structured interviews were conducted with the three selected students and the classroom teacher after the learning activity.

Observation notes, interview records, and documentation were organized and analyzed using the interactive model of data reduction, data display, and conclusion drawing (Miles et al., 2014). Data from the three participants were compared across the visual, auditory, and kinesthetic questionnaire categories. Credibility was strengthened through triangulation of observation, interview, and documentation data. Questionnaire results were used solely as a participant-selection frame and were not analyzed as evidence of learning outcomes.

FINDINGS & DISCUSSION

Findings

Participant Selection

The questionnaire was completed by 28 of the 30 enrolled students. Eight students were categorized as visual, twelve as auditory, and eight as kinesthetic. One student from each category was purposively selected on the basis of the highest score in the relevant category and willingness to participate. These categories were used to structure the qualitative comparison; they do not indicate that each student possessed only one mode of learning or that a specific teaching method was necessarily optimal for that student.

Classroom Response to Quizizz

Classroom observations indicated a visible change in the atmosphere after the teacher introduced Quizizz as a formative assessment activity. Before the quiz, several students appeared distracted during the teacher's explanation. When the Quizizz activity began, students prepared their Chromebooks, attended to the screen, and participated more actively in answering questions. The teacher explained that the platform's colorful display, immediate feedback, and leaderboard contributed to students' enthusiasm. This observation describes participation during the observed lesson; it does not demonstrate an improvement in learning outcomes.

Figure 1. Classroom Learning Process Using Quizizz

Response of the Visual-Category Participant

The selected visual-category participant appeared highly engaged during the Quizizz activity. Observation and interview data indicated that the participant was attracted by the colorful graphics, animations, and leaderboard. The participant reported that these features made the questions more enjoyable and encouraged an effort to improve the ranking. In this case, Quizizz appeared to support participation by providing visual stimuli and a visible progress indicator.

Figure 2. Interview with the Visual-Category Participant

Response of the Auditory-Category Participant

The selected auditory-category participant also described Quizizz as enjoyable. However, the participant reported that direct verbal explanations from the teacher were more helpful for understanding new material. The participant viewed Quizizz as useful for reviewing material and participating in a classroom quiz, but not as a replacement for teacher explanation. This suggests that, for this participant, Quizizz functioned as a complementary activity within a lesson that still required explicit instruction.

Figure 3. Interview with the Auditory-Category Participant

Response of the Kinesthetic-Category Participant

The selected kinesthetic-category participant appeared more focused and competitive during Quizizz than during the preceding teacher explanation. The participant paid attention to the leaderboard and reported feeling motivated to answer questions quickly. Nevertheless, the interview also indicated a preference for detailed teacher explanations before completing

the quiz. Thus, the interactive and competitive elements appeared to encourage engagement, while teacher guidance remained important for understanding the lesson content.

Figure 4. Interview with the Kinesthetic-Category Participant

Challenges in Implementing Quizizz

The teacher identified three main implementation challenges. First, the class had fifteen Chromebooks for thirty students, so the activity had to be conducted in multiple sessions. Second, unstable internet connectivity occasionally prevented images from loading, which made some questions difficult to answer. Third, the teacher emphasized that Quizizz was used primarily for formative assessment and learning reflection rather than as the main instructional method. Despite these constraints, the observed activity created an active classroom atmosphere. The practical limitations, however, reduced the efficiency and accessibility of implementation.

Discussion

The findings indicate that the three selected participants did not experience Quizizz in identical ways. The visual-category participant was particularly responsive to visual and competitive features, whereas the auditory- and kinesthetic-category participants emphasized the continuing importance of direct teacher explanations. These results should be read as within-case descriptions of classroom experience, not as evidence that Quizizz is universally more effective for one learning-style category than another.

The observed increase in participation is consistent with literature describing gamification as a way to make learning activities more interactive and engaging. For example, a higher-education study found that gamified active-learning activities can increase students' involvement and satisfaction, although such evidence cannot be transferred uncritically to elementary classrooms (Murillo-Zamorano et al., 2021). In the present study, the visual display, immediate feedback, time pressure, and leaderboard appeared to create a more active formative-assessment atmosphere, but the study did not measure achievement gains.

Several earlier studies of Quizizz in Indonesian educational settings have reported positive outcomes related to motivation, participation, or learning achievement (Al Mawaddah et al., 2021; Annisa & Erwin, 2021; Hidayatullah & Haifaturrahmah, 2025;

Lestari et al., 2024; Nirmalasari & Susanti, 2023; Rizkullah et al., 2025). However, these studies involve different subjects, designs, and classroom conditions. Their findings therefore provide contextual support rather than direct proof that Quizizz improved outcomes in the present class. The present analysis is limited to how three selected students and their teacher described and displayed participation during the observed lesson.

The visual, auditory, and kinesthetic categories were useful for organizing participants' accounts, but they should not be treated as deterministic instructional prescriptions. Indonesian studies have documented that learners may report different preferences or tendencies across these categories (Andriani & Nugraheni, 2024; Himmah & Nugraheni, 2023; Muslihin, 2024; Qondias, 2025; Wahyuni, 2017). The VAK framework also remains widely recognizable in practice-oriented education literature (Barbe et al., 1979; DePorter & Hernacki, 2000). In this study, the categories are best understood as a lens for describing what participants found attractive, useful, or difficult in a particular lesson.

This caution is important because evidence remains insufficient for the claim that students learn better simply because instruction is matched to a purported learning style (Pashler et al., 2008). Reviews of adaptive e-learning similarly show that learner characteristics can inform digital design, but they do not justify simple modality-matching assumptions (Katsaris & Vidakis, 2021). Technology-supported personalized learning may be beneficial when it adapts to learning needs or levels, but this is conceptually different from matching instruction to a questionnaire label (Major et al., 2021). Teachers should therefore combine visual materials, verbal explanation, discussion, practice, and feedback rather than relying on a single modality for a particular student.

The findings also reinforce the importance of pedagogical and technological readiness. For the auditory- and kinesthetic-category participants, direct teacher explanation remained important before or alongside the quiz. Quizizz should therefore be positioned as a formative-assessment and learning-reflection tool that complements, rather than replaces, explicit teaching. The limited number of Chromebooks and unstable internet connection also affected the pace of the activity and the visibility of image-based questions. Similar implementation concerns have been reported in studies of Quizizz use in Indonesian elementary contexts (Hidayatullah & Haifaturrahmah, 2025; Lestari et al., 2024; Rizkullah et al., 2025). Future implementation should consider shared-device arrangements, advance preparation of access codes, and question formats that remain usable when images or connections fail.

CONCLUSION

In the observed fifth-grade IPAS class, Quizizz supported an active formative-assessment activity, but the three selected participants described different experiences. The visual-category participant was especially attracted to images, colors, animations, and the leaderboard. The auditory-category participant valued Quizizz as an enjoyable review activity but relied on direct teacher explanations to understand new material. The kinesthetic-category participant was engaged by the interactive and competitive features while also emphasizing the importance of teacher guidance. The implementation was constrained by limited Chromebook availability and unstable internet connectivity. Consequently, Quizizz should be used as a complementary tool within a varied instructional design, not as a replacement for

direct teaching or as evidence that matching instruction to a learning style will necessarily improve learning outcomes.

REFERENCES

Al Mawaddah, A. W., Hidayat, M. T., Amin, S. M., & Hartatik, S. (2021). Pengaruh penggunaan media pembelajaran Quizizz terhadap hasil belajar siswa pada mata pelajaran matematika melalui daring di sekolah dasar. Jurnal Basicedu, 5(5), 3109–3116. https://doi.org/10.31004/basicedu.v5i5.1288

Andriani, F., & Nugraheni, N. (2024). Analisis karakteristik gaya belajar siswa dalam pembelajaran berdiferensiasi. Jurnal Riset Pendidikan Dasar (JRPD), 5(1), 33–41. https://doi.org/10.30595/jrpd.v5i1.16067

Annisa, R., & Erwin, E. (2021). Pengaruh penggunaan aplikasi Quizizz terhadap hasil belajar IPA siswa di sekolah dasar. Jurnal Basicedu, 5(5), 3660–3667. https://doi.org/10.31004/basicedu.v5i5.1376

Barbe, W. B., Swassing, R. H., & Milone, M. N. (1979). Teaching through modality strengths: Concepts and practices. Zaner-Bloser.

DePorter, B., & Hernacki, M. (2000). Quantum learning: Membiasakan belajar nyaman dan menyenangkan. Kaifa.

Hidayatullah, & Haifaturrahmah. (2025). Penggunaan aplikasi Quizizz sebagai media pembelajaran dalam meningkatkan minat belajar siswa SD. Pendas: Jurnal Ilmiah Pendidikan Dasar, 10(4), 252–264. https://doi.org/10.23969/jp.v10i04.35178

Himmah, F. I., & Nugraheni, N. (2023). Analisis gaya belajar siswa untuk pembelajaran berdiferensiasi. Jurnal Riset Pendidikan Dasar (JRPD), 4(1), 31–39. https://doi.org/10.30595/jrpd.v4i1.16045

Republic of Indonesia. (2003). Undang-Undang Republik Indonesia Nomor 20 Tahun 2003 tentang Sistem Pendidikan Nasional [Law of the Republic of Indonesia Number 20 of 2003 on the national education system].

Irrubai, M. L. (2023). Aktualisasi dan implementasi meaningful learning dan powerful learning dalam pembelajaran wawasan Ilmu Pengetahuan Sosial di Indonesia. Sosio-Didaktika: Social Science Education Journal, 10(2), 95–108.

Katsaris, I., & Vidakis, N. (2021). Adaptive e-learning systems through learning styles: A review of the literature. Advances in Mobile Learning Educational Research, 1(2), 124–145. https://doi.org/10.25082/AMLER.2021.02.007

Lestari, E., Basukiyatno, & Suriswo. (2024). Quizizz dalam modul ajar IPAS untuk meningkatkan literasi sains siswa sekolah dasar. Journal of Education Research, 5(4), 6391–6397. https://doi.org/10.37985/jer.v5i4.2063

Lim, T. M., & Yunus, M. M. (2021). Teachers' perception towards the use of Quizizz in the teaching and learning of English: A systematic review. Sustainability, 13(11), Article 6436. https://doi.org/10.3390/su13116436

Major, L., Francis, G. A., & Tsapali, M. (2021). The effectiveness of technology-supported personalised learning in low- and middle-income countries: A meta-analysis. British Journal of Educational Technology, 52(5), 1935–1964. https://doi.org/10.1111/bjet.13116

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). Qualitative data analysis: A methods sourcebook (3rd ed.). SAGE.

Murillo-Zamorano, L. R., López-Sánchez, J. Á., Godoy-Caballero, A. L., & Bueno-Muñoz, C. (2021). Gamification and active learning in higher education: Is it possible to match digital society, academia and students' interests? International Journal of Educational Technology in Higher Education, 18, Article 15. https://doi.org/10.1186/s41239-021-00249-y

Muslihin. (2024). Analisis gaya belajar siswa dalam proses pembelajaran di Sekolah Dasar Negeri 04 Sungai Layang. Jurnal PGSD, 10(1). https://doi.org/10.32534/jps.v10i1.5626

Nirmalasari, S. P. I., & Susanti, M. M. I. (2023). Efektivitas Quizizz dalam meningkatkan hasil belajar peserta didik sekolah dasar. Jurnal Basicedu, 7(2), 1286–1294. https://doi.org/10.31004/basicedu.v7i2.4926

Pahru, S., Hikmah, B. F. R., Pransisca, M. A., & Gazali, M. (2025). Analisis hakikat pembelajaran IPA di sekolah dasar. Jurnal Asimilasi Pendidikan, 3(3), 144–151. https://doi.org/10.61924/jasmin.v3i3.64

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles: Concepts and evidence. Psychological Science in the Public Interest, 9(3), 105–119. https://doi.org/10.1111/j.1539-6053.2009.01038.x

Qondias, D. (2025). Kecenderungan gaya belajar visual auditori dan kinestetik pada pendidikan Pancasila siswa sekolah dasar. Pendas: Jurnal Ilmiah Pendidikan Dasar, 10(1), 123–138. https://doi.org/10.23969/jp.v10i01.23258

Rizkullah, M. F., Sahlan, M., & Puspitarini, D. (2025). Penggunaan media pembelajaran "Quizizz" dalam proses pembelajaran di sekolah dasar. Jurnal Basicedu, 9(4), 860–867. https://doi.org/10.31004/basicedu.v9i4.10201

Sugiyono. (2015). Memahami penelitian kualitatif. Alfabeta.

Wahyuni, Y. (2017). Identifikasi gaya belajar (visual, auditorial, kinestetik) mahasiswa pendidikan matematika Universitas Bung Hatta. Jurnal Penelitian dan Pembelajaran Matematika, 10(2), 128–132. https://doi.org/10.30870/jppm.v10i2.2037