

# Quizizz As a Game Based Interactive Learning Media in the Era of Independent Curriculum

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**Abstract:** *The main objective of this research is to evaluate the use of Quizizz as a web-based learning tool to meet the demands of technological advancement in the Merdeka Curriculum era. This study employed a descriptive quantitative design with purposive sampling, involving 120 students. Data were collected using a Likert-scale questionnaire distributed through Google Forms, and analyzed using instrument validity checks by five experts with the Aiken V formula and reliability testing. The instrument was then used to measure student responses based on assessment indicators from I Nyoman Sudana Degeng. The results showed that the Quizizz application as a game-based learning medium was categorized as very good based on student responses in supporting the classroom learning process. In conclusion, Quizizz proves to be an effective digital tool aligned with the technological demands of the Independent Curriculum.*

**Keywords:** *Quizizz, Game-Based Learning, Merdeka Curriculum, Student Responses*

## Introduction

In the world of education, a teacher is required to be creative in delivering lessons to students (Ferrari & Schoolnet, 2009; Irawati et al., 2022; Newton & Newton, 2014; Singh Malik, 2018). The birth of the Independent Curriculum demands that educators are always creative and innovative in teaching, such as using appropriate models and learning media that meet the demands of the times. The Independent Curriculum was created to respond to the challenges of technology and changing times (Aliyyah et al., 2023; Darmawati A, 2023; Kolmos et al., 2016; Newton & Newton, 2014; Singh Malik, 2018). The emergence of the Independent Curriculum is also due to the Covid-19 outbreak, which has the potential to infect students from pre-primary to upper secondary school by 577.305.660, and at the tertiary level by 86,034,287. Therefore, distance learning has become the best alternative in the learning process, although educators are required to be more creative in managing learning. The Independent Curriculum is a development of the curriculum.

Indonesia through the Minister of Education and Culture, Nadim Makarim issued this new curriculum as a solution to continue education during the COVID-19 era, so that education does not become stagnant, with many online learning systems being conducted through media such as Zoom. This demands that students are more independent, active,

creative, and innovative (Arung et al., 2023; Ferrari & Schoolnet, 2009; Hang & Van, 2020; Mulyaningsih et al., 2022; Shagrova et al., 2019). Learning is mostly centered around the students, with lecturers controlling the learning process. The goal of the Independent Curriculum is to accommodate various educational problems, especially post-Covid-19 crisis. The Merdeka Curriculum is also designed to be in line with the development of technology and to create independent, critical, creative, and innovative students. The development of the Independent Curriculum is not without guidance, as there are at least two fields of psychology that underlie the development of the curriculum, namely developmental psychology and learning psychology, which can be used as a reference for curriculum developers and educators in designing and developing a curriculum that meets the needs of students (Darling-Hammond, 2000; Glaser, 1976).

The COVID-19 outbreak has led to drastic changes in the learning process. This is evident in the replacement of face-to-face learning with virtual learning. As a result, adjustments are necessary in the learning process, which includes changes in the methods, models, types, tools and learning media used. During the pandemic, commonly used learning media include WhatsApp groups, Google Suite for Education, Ruangguru, Zenius, and Zoom (Darling-Hammond, 2000; Hijriati, 2020; Kartika et al., 2022; Tuanaya et al., 2022; Zahro' & Amruzain, 2021). However, the use of learning media is not limited to the aforementioned applications. The pandemic demands that teachers innovate in using learning media so that knowledge conveyed by educators can be effectively delivered. Online learning can utilize social media platforms such as Facebook and Instagram (Alhabash & Ma, 2017; Blair & Serafini, n.d.) as well as game-based media such as Quizizz, Kahoot, Socratives, and more (Alhabash & Ma, 2017; Irwansyah et al., 2021; Janković & Lambić, 2022; Orhan Göksün & Gürsoy, 2019; Temel & Cesur, 2024).

Games are usually played for entertainment purposes and popular among many people because of their challenging and engaging characteristics (Bellotti et al., 2010; Boyle et al., 2011; Hamari et al., 2014; Laine & Lindberg, 2020; Przybylski et al., 2010). They often involve completing missions that provide a sense of satisfaction to players.

Nowadays, games have evolved into a form of learning, especially for students. Game-based learning can motivate students in the learning process and enhance their enjoyment and engagement with the material. Quizizz is a widely used game-based learning platform in the teaching process, particularly during the COVID-19 pandemic. The platform provides benefits to both students and teachers by reducing boredom during the learning process and enabling instructors to incorporate instruction, discussion, and evaluation. Quizizz is a flexible platform that allows teachers to create timed quizzes that can be accessed by students anywhere, at any time, using a game pin or password. Given the flexibility of Quizizz, it is an excellent tool for self-directed learning, as it is not limited by time or space. This application is accessible to all educators worldwide and can be used in any location. It is especially relevant in the context of the independent curriculum concept. Therefore, the purpose of this study is to explore and analyze the benefits of Quizizz as a game-based learning platform and its relevance to the independent curriculum concept.

#### a. Independent Learning and Independent Curriculum

The concept of independent learning in independent campus or in Indonesia they called it as "Merdeka Belajar Kampus Merdeka" is a learning program that provides facilities for students to strengthen their competencies by providing opportunities to learn outside their study program at the same university and/or to take courses in the same study program at different universities, different study programs at different universities, and/or learning outside universities (Hakim & Nabila, 2022; Ibnu Rusyd Tanah Grogot & Timur, 2023; Koesyono Efendi & Suastra, 2023; Zainuri, 2022). In essence, this concept of learning provides opportunities for students to feel independent by freely exploring themselves and seeking knowledge without being limited by the university where they study.

The utilization of information technology in the learning process is expected to be a solution to the problems that arise after the COVID-19 pandemic. This is also the foundation for the "kurikulum merdeka" or independent curriculum, especially since we live in an era of globalization that demands rapid changes in technology. Learning becomes less effective if there is a lack of infrastructure and readiness for educational technology (Gov et al., 2014; Kundu & Bej, 2021; Mosa et al., 2016; Ouma, 2013; Saekow, 2011).

The independent curriculum demands that students and educators be tech-savvy, using models, methods, and learning media that are appropriate for the times. The use of game-based learning media such as Quizizz will motivate students to learn by playing, as they will feel satisfied and motivated to achieve the highest score.

#### b. Learning Media

Learning media is a tool used to convey learning materials and experiences. The materials cannot be effectively communicated without the support of good models, methods, and learning media. Pratama, (2021) stated that the use of interactive learning media can increase the student's learning motivation and enthusiasm. When students are highly motivated to learn, it is expected that their learning achievement will also increase (Janković & Lambić, 2022; Laine & Lindberg, 2020; Pratama, 2021). Learning media also encourages students to become more proactive in seeking knowledge, because they are not only receiving information from the teacher but also participating in activities such as observing, simulating, role-playing, and others to obtain information and knowledge (Novak, 2010; Rambe, 2012). Learning media is also used as a means to cultivate good characteristics in students, such as responsibility, honesty, diligence, and other characteristics that are useful for their future.

The use of learning media should be tailored to the needs of students and teachers so that it can help educators in deliver learning materials and assist students in understanding the lessons. To improve the effectiveness of learning media, educators must be able to select appropriate learning media that suits the students' characteristics and is in line with the independent curriculum concept. Educators can also innovate learning media or develop them through scientific research.

### c. Quizizz

Quizizz is an educational game application that can significantly support learning (Asmara et al., 2022; Munawir & Hasbi, 2021; Setiyani et al., 2020; Yunus & Hua, 2021). The Quizizz app is often used to measure the learning process in the classroom. It provides various features that educators can use to create tests for their students. Educators can create their own questions and set them according to the abilities of their students. Questions can also be made creatively by adding images and videos to make them more attractive. The types of questions available include multiple choice, polling, essay, or image-based answers. The time to complete each question can also be set based on the level of difficulty. Presenting questions in the form of a game has several benefits in learning, including: 1) Providing motivation and engaging all students in learning, 2) Developing students' abilities such as literacy and numeracy skills, 3) As a tool to overcome learning difficulties, 4) Practicing a certain role or profession in real life, 5) Encouraging students to be more creative (Domínguez et al., 2013; Erhel & Jamet, 2013; Memmert et al., 2015).

There are many studies that show the effectiveness of using games in the learning and teaching process if used properly. Hikmah & Indah Mustikawati, (2017) conducted a study using a card game that modified the display and rules of the Uno game, which states that Quizizz can improve student activity during the learning process, increase learning outcomes, make students more careful and calm in working on questions or quizzes, and train students to manage time well (Adriyono et al., 2022; Eka Wati et al., 2022; Le Thi Ngoc, 2024; Muhammad, 2024; Munuyandi et al., 2021; Patisung, 2020; Syafriaedi, 2023). The Quizizz application provides interesting features that provide great benefits. Thus, many teachers or lecturers have started using the Quizizz application to help the learning process in the classroom.

Quizizz is a game-based learning platform that is widely used by educators to evaluate learning progress. The evaluation results of the students can be downloaded in the form of an Excel file. The Quizizz application helps teachers to evaluate learning progress without any limitations of place and time. It has a good interface and provides time settings for each question, allowing students to concentrate well as they are required to complete the questions within the given time (Muhammad, 2024).

## Methodology

In the Methods section of your manuscript, it is crucial to provide sufficient details to enable the reproducibility of your work by an independent researcher. Here are some key considerations. This is a descriptive quantitative research study that utilizes qualitative techniques through open interviews and questionnaires. The study aims to gather information about the use of the Quizizz application in the Introduction to Business course. The research subjects are 120 fourth-semester Education students from Yogyakarta State University, selected through purposive sampling.

The reason for selecting these students is that the university has implemented a Independent Curriculum that requires educators to use appropriate learning media such as

Quizizz. Data collection is done using a Likert scale questionnaire, collected through a Google form. The instrument's validity is tested by five experts through the Aiken V formula using a 5-point Likert scale (1-2-3-4-5) with assessment criteria displayed in Table 1.

Table 1. Assessment criteria according to the Likert scale

Criteria	Assesment/Score
Excellent	5
Good	4
Fair	3
Poor	2
Very Poor	1

The research instrument was tested for construct validity using Exploratory Factor Analysis (EFA), where the KMO and Bartlett test values were greater than 0.6. The reliability coefficient was also tested using Cronbach Alpha  $> 0.6$ . Subsequently, the instrument was used to measure student responses to the use of the Quizizz application, based on assessment indicators from I Nyoman Sudana Degeng, (1993) that state the factors that teachers/educators need to consider when selecting learning media, namely: 1) instructional goals; 2) effectiveness; 3) students; 4) availability; 5) procurement costs; 6) technical quality. The evaluation criteria for the Quizizz games application are presented in Table 2.

Tabel 2. Evaluation Criteria

Criteria	Percentage (%)
Very Good	81-100
Worth	61-80
Fairly Decent	41-60
Not Eligible	21-40
Very Unworthy	0-20

## Result and Discussion

Good research requires measurable indicators. In order to achieve measurable research results, clear indicators must be present in a research project. The assessment indicators used in this study are based on I Nyoman Sudana Degeng, (1993) factors that educators should consider when selecting learning media, namely: 1) instructional goals; 2) effectiveness; 3) students; 4) availability; 5) procurement costs; and 6) technical quality. The indicators used in a research project should be included in the statement items of an instrument.

Before data collection, the validity and reliability of the data must be ensured. The evaluation instrument is validated first by material experts through expert judgments. The validity of the experts' evaluation of the material and test instrument is assessed to determine how valid the test instrument developed or compiled is according to the experts' opinions (Tatli et al., 2022; Torrecilla-Salinas et al., 2019) Four experts were selected to

provide assessments using a Likert scale assessment sheet. The results of the expert validation calculation using Aiken V are presented in Table 3.

Table 3. Evaluation Instrument Validity Results

Item	V-Value	Criteria
1	0.81	Valid
2	0.70	Valid
3	0.70	Valid
4	0.93	Valid
5	0.93	Valid
6	0.90	Valid
7	0.88	Valid
8	0.99	Valid
9	0.92	Valid
10	0.92	Valid
11	1.00	Valid
12	0.82	Valid

Based on Table 3, it is known that the evaluation instrument with indicators from I Nyoman Sudana Degeng, (1993) is considered valid because it meets the criteria of more than  $> 0.6$ . Furthermore, the construct validity was tested using Exploratory Factor Analysis (EFA) with SPSS 22, and it was found that the KMO & Bartlett’s Test value was 0.875 or greater than  $> 0.5$ , which means that the instrument is valid in terms of construct because it meets the prerequisites of factor analysis. Conducting construct validity testing is important to evaluate the quality of the instrument used in research. The reliability test using Cronbach alpha yielded a value of 0.861, indicating that the instrument is highly reliable. Reliability testing is necessary to assess the level of reliability of the research instrument (Andriani et al., 2025).

The instrument tested for validity and reliability is then used to assess students' responses to the use of the Quizizz application as a game-based learning media in the era of their curriculum. The respondents' feedback regarding their responses to the use of the Quizizz application can be seen in Table 4 below. The table also showing evaluation report of the Quizizz application. The report includes the percentage of satisfaction for each indicator, categorized as "Very Good":

Table 4. Quality Test Results of the Games Quizizz Application

No	Indicator	Percentage	Category
1	Clarity of instructions within the Quizizz application	83,12%	Very Good
2	The effectiveness of the Quizizz application in learning	90,51%	Very Good

3	Ease of access to the Quizizz application	92,23%	Very Good
4	Ease of access to the Quizizz application	88,42%	Very Good
5	Affordability of using the Quizizz application	91,62%	Very Good
6	The role of the Quizizz application in fostering learning motivation	89,75%	Very Good
7	Timing settings for each question according to the level of difficulty	83,34%	Very Good
8	The variety of question types that can be created in evaluating learning	97,45%	Very Good
9	Suitability with student characteristics	86,63%	Very Good
10	Quality of images that can be added to create questions	83,57%	Very Good
11	Completeness of instructions in the Quizizz application	86,00%	Very Good
12	The attractiveness of the quiz display for evaluating learning	98,92%	Very Good

Based on Table 4, it can be seen that the percentage average of the Quizizz application's quality test results as an assessment media is very good. This means that Quizizz is highly effective and helps to maximize the learning process. This is consistent with what was stated by a lot of researchers (Adriyono et al., 2022; Eka Wati et al., 2022; Le Thi Ngoc, 2024; Muhammad, 2024; Munuyandi et al., 2021; Patisung, 2020; Syafriaedi, 2023), who said that presenting questions in the form of a game has several benefits in learning, including 1) Providing motivation and involving all students in learning, 2) Training students' abilities such as literacy and numeracy skills, 3) As a medium to overcome learning difficulties, 4) Practicing specific roles or professions in real life, and 5) Making students more creative.

The Instruments asked to the respondents based on the established indicators were also very good. Quizizz, a game-based learning platform, has been proven to have a very positive impact on learning. The positive impact resulting from research based on assessment indicators is as follows: 1.) Quizizz has very good instruction clarity, 2.) It is effective in learning, 3) Quizizz is easily accessible by anyone anywhere and anytime, 4) Quizizz plays a role in increasing students' learning motivation, 5) Quizizz application can be accessed at a low cost or even for free, 6) Quizizz has a significant role in improving students' learning motivation, 7) The time setting in the Quizizz application can be adjusted according to the level of difficulty of each question, 8) Quizizz application has many varied types of questions for learning evaluation, 9) Quizizz application is suitable for student character, 10) Quizizz application has good image quality to add in the question-making process, 11) Quizizz application has clear instructions for making questions, 12) Quizizz application has an attractive appearance for learning evaluation.

## Conclusion

This research concludes that the use of the Quizizz application is very helpful in realizing effective learning in the era of the 5.0 industrial revolution and is categorized as a good application based on student assessment of the learning media.

Quizizz is a game-based learning platform that is suitable for implementation in the era of the independent curriculum. It has a positive impact on its users. Learning becomes more enjoyable and less tedious because students feel like they are playing a game. Quizizz helps to develop students' competitive spirit because it displays their scores each time they answer a question. It also improves their focus, stimulates their enthusiasm, and helps them understand the questions better than traditional textbook-based questions. However, the use of Quizizz in learning also needs to be considered carefully. Teachers need to ensure that students' motivation to learn comes from within themselves. They should also use other learning media with different characteristics as not all students have the same learning style. Additionally, the use of Quizizz should be tailored to the learning model, the characteristics of the learning material, and the students' characteristics to ensure that it truly measures student learning outcomes and achieves learning objectives.

We suggest that further research should be conducted to develop a learning tool similar to Quizizz tailored to each subject, as each subject has its own characteristics and requires a learning tool that is suitable for those specific characteristics.

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