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Development of UNO Card Learning Media Economic Growth and Development Material

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ABSTRACT

This study aims to develop UNO card-based learning media and analyze its validity and practicality in teaching economic growth and development. In the context of rapid digitalization, learning environments face challenges such as decreased student concentration and over-reliance on technology, which often reduce engagement and learning effectiveness. Therefore, innovative, non-digital, and interactive learning media are needed to support meaningful learning experiences. This research employed a Research and Development (R&D) design using the 4D model, consisting of define, design, develop, and disseminate stages. Data were collected through expert validation sheets, student questionnaires, interviews, and documentation, and analyzed using descriptive quantitative techniques. The findings indicate that the developed media achieved a very high level of validity (96.75%) and practicality (94.4%). The media aligns well with curriculum standards and student characteristics, enhancing its instructional relevance. The interactive game structure increases student motivation, participation, and engagement. The visual and structural design supports readability and usability. The media is flexible and does not require internet access, making it suitable for diverse contexts. It also promotes collaborative and active learning. This study contributes to the development of game-based learning in economics education and recommends further research to examine its effectiveness on learning outcomes.

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INTRODUCTION

In the era of globalization and the Industrial Revolution 4.0, digital technology has become an inseparable part of human life, including in the field of education. The integration of technology into learning environments is expected to improve access, flexibility, and the overall quality of education.

However, the rapid expansion of digital tools such as smartphones has also introduced new pedagogical challenges that require serious attention. On the one hand, technology provides opportunities for students to access unlimited learning resources, collaborate virtually, and develop digital literacy skills. On the other hand, the excessive and uncontrolled use of digital devices can lead to reduced concentration, cognitive overload, and superficial learning engagement. Studies have shown that students often struggle to balance the educational and non-educational use of smartphones, which ultimately affects their academic performance (Nabilah, 2025; Szilágyi et al., 2025). Therefore, it is crucial to rethink how learning environments are designed, particularly by integrating appropriate learning media that can optimize the benefits of technology while minimizing its negative impacts on student learning.

Despite the widespread adoption of digital technology in education, many learning environments still face fundamental challenges related to student engagement and learning effectiveness. One of the most pressing problems is the decline in students' concentration due to constant distractions from digital devices. Smartphones, which are initially intended as learning tools, are frequently used for social media, entertainment, and other non-academic purposes. This phenomenon leads to fragmented attention, reduced learning motivation, and limited comprehension of complex subject matter (Ainani et al., 2024; Muslimin & Harintama, 2022). As a result, the learning process becomes less meaningful and fails to achieve its intended objectives. Furthermore, the over-reliance on digital media often overlooks the diverse learning preferences of students, particularly those who benefit from more interactive and tactile learning experiences. These conditions highlight the urgent need for alternative instructional strategies and media that are capable of maintaining student engagement, fostering active participation, and supporting deeper understanding without relying entirely on digital infrastructure.

In response to these challenges, the role of learning media becomes increasingly significant in shaping effective and engaging educational experiences. Learning media serve not only as tools for delivering content but also as instruments for facilitating interaction, motivation, and meaningful learning. The use of varied and interactive media allows abstract concepts to be presented in more concrete and understandable forms, thereby enhancing students' cognitive processing. Moreover, interactive media can stimulate students' curiosity and encourage active participation, which are essential components of effective learning. A dynamic and non-monotonous learning environment has been shown to improve students' motivation and overall learning outcomes (Nur et al., 2023; Octaviani & Mulyawati, 2025). Therefore, educators are required to be innovative in selecting and designing learning

media that align with students' characteristics and learning needs. By doing so, the learning process can become more student-centered, engaging, and capable of addressing the limitations posed by both traditional and overly digitalized instructional approaches.

One promising approach that has gained attention in recent years is the use of game-based learning media. Game-based learning integrates elements of play, competition, and interaction into educational activities, making the learning process more enjoyable and engaging. Among various game-based media, UNO cards have been widely explored as an innovative instructional tool. In educational settings, UNO cards are modified by embedding subject-related questions and adapting game rules to suit learning objectives. This approach transforms conventional gameplay into a meaningful learning experience where students actively engage with the material while participating in the game. Previous studies have demonstrated that UNO card-based learning can significantly enhance student participation, motivation, and classroom interaction (Yanuari et al., 2024; Wibawa et al., 2024). The interactive nature of the game encourages students to think critically, respond quickly, and collaborate with peers, thereby fostering both cognitive and social skills in the learning process.

A growing body of research has consistently reported the positive impact of UNO card learning media across various subjects. Studies by Jumaroh et al. (2022), Kurniati et al. (2025), Kurniawan et al. (2023), Mahartika et al. (2020), and Rosita et al. (2022) indicate that UNO-based media can improve student engagement, learning motivation, and active participation in the classroom. These findings highlight the potential of game-based learning as an effective alternative to traditional instructional methods. However, most of these studies focus on subjects such as mathematics, science, and physics, with limited attention given to economics education, particularly on complex topics such as economic growth and development. Additionally, prior research tends to emphasize general effectiveness without systematically developing media based on structured instructional design models. This creates a significant research gap, as there is a need for subject-specific, systematically developed, and contextually relevant learning media that can address the unique challenges of economics learning at the high school level.

Economic growth and development is a fundamental topic in economics education that requires a deep understanding of interconnected concepts, including growth theories, development indicators, and socio-economic factors. However, students often perceive this material as abstract, complex, and difficult to understand due to its theoretical nature and lack of contextual learning support. Without appropriate instructional media, students may struggle to

connect theoretical concepts with real-world applications, leading to low engagement and poor learning outcomes. Therefore, there is a critical need to develop learning media that can simplify complex concepts while maintaining student interest and participation. Game-based media, such as modified UNO cards, offer a potential solution by combining cognitive engagement with interactive learning experiences. By integrating educational content into familiar game formats, students can learn in a more relaxed and enjoyable environment, which may enhance both their understanding and retention of the material.

This study introduces a novel approach by developing UNO card learning media specifically designed for economic growth and development materials using a structured 4D development model. Unlike previous studies that primarily focused on general applications of UNO cards, this research emphasizes the integration of curriculum standards, student characteristics, and offline learning needs into the media design. The innovation lies not only in the adaptation of UNO cards as a learning tool but also in the systematic development process that ensures the validity and practicality of the media. Additionally, this study addresses the limitation of internet dependency by providing an alternative learning solution that can be implemented in resource-constrained environments. This makes the developed media highly relevant for diverse educational contexts, particularly in areas with limited access to digital infrastructure.

Based on the identified gaps and challenges, this study seeks to answer the following research problem: how can UNO card learning media be effectively developed to support the teaching of economic growth and development in a way that is both valid and practical for classroom use? The underlying argument of this research is that well-designed game-based learning media can enhance student engagement, facilitate understanding of complex concepts, and provide an accessible alternative to digital-dependent learning tools. By employing a systematic development approach, this study aims to produce a learning medium that not only meets academic standards but also responds to real classroom needs. The contribution of this research lies in providing an innovative, practical, and scalable instructional solution that can enrich economics learning and support more interactive and meaningful educational experiences.

RESEARCH METHODS

This study employed a Research and Development (R&D) design aimed at developing and evaluating an instructional product in the form of UNO card-based learning media. The selection of the R&D approach is grounded in its suitability for producing educational innovations through a systematic process of design, validation, and refinement. Unlike conventional experimental or

survey methods, R&D enables researchers to iteratively develop a product while simultaneously assessing its feasibility in real educational contexts.

The development procedure in this study followed the 4D model, which consists of four sequential stages: define, design, develop, and disseminate. The define stage focused on identifying instructional needs, analyzing student characteristics, and determining relevant learning objectives. The design stage involved constructing the initial prototype of the UNO card media, including content structure, visual layout, and game mechanics aligned with the curriculum. The develop stage encompassed expert validation and field testing to evaluate the validity and practicality of the media. Finally, the disseminate stage was conducted on a limited scale to introduce the developed product to potential users (Susilawati et al., 2024).

This study was conducted at SMA Negeri 3 Banjarmasin, Indonesia. The selection of this site was based on several considerations. First, preliminary observations and interviews with economics teachers indicated that the learning process was still predominantly teacher-centered, with limited use of innovative instructional media. Second, students demonstrated low engagement, reduced concentration, and minimal participation during learning activities, particularly in economics subjects. Third, the implementation of digital-based learning media was constrained by limited internet access among students, which posed challenges for technology-integrated instruction. These conditions make the school a relevant and representative setting for developing alternative learning media that are interactive, engaging, and independent of digital infrastructure. Therefore, SMA Negeri 3 Banjarmasin was considered an appropriate context for testing the feasibility of UNO card-based learning media.

Data were collected using multiple instruments to ensure comprehensive evaluation of the developed learning media. The instruments included expert validation sheets, student response questionnaires, interviews, and documentation. Expert validation sheets were utilized to assess the validity of the learning media in terms of content accuracy, instructional design, language clarity, and visual presentation. The validation process involved both media experts and subject matter experts to ensure the quality and appropriateness of the product (Candra & Wayan, 2022; Sinta & Nyoman, 2021).

Student response questionnaires were administered to evaluate the practicality of the media based on students' perceptions of ease of use, attractiveness, and usefulness in supporting learning activities (Candra & Suniasih, 2022). In addition, interviews were conducted with teachers and selected students to gain deeper insights into learning challenges and user experiences. Documentation was also used to support data triangulation,

including records of the development process, validation results, and trial implementation.

The collected data were analyzed using descriptive quantitative techniques. The scores obtained from expert validation sheets and student response questionnaires were converted into percentages to determine the level of validity and practicality of the learning media. The percentage scores were then categorized into predefined criteria to assess the feasibility of the product, such as "very valid," "valid," "practical," and "very practical." The analysis process involved calculating the total score obtained from each instrument, dividing it by the maximum possible score, and multiplying the result by 100 to obtain a percentage value. This approach allows for a clear and standardized interpretation of the evaluation results. The use of percentage-based descriptive analysis is widely applied in educational development research due to its simplicity and effectiveness in representing feasibility levels (Riki et al., 2022; Irawan & Arif, 2021).

Furthermore, qualitative data obtained from interviews and documentation were analyzed through data reduction, data display, and conclusion drawing to complement the quantitative findings and provide a more comprehensive understanding of the development process and product usability.

RESULTS AND DISCUSSION

Results

Difine

At the definition stage, the need for economic learning at SMA Negeri 3 Banjarmasin was identified through interviews with teachers and the distribution of Google Forms to students. Preliminary analysis shows that learning is still dominated by conventional methods such as lectures, discussions, and group assignments, with limited media use of PowerPoint, video, and Quizizz that are rarely applied due to time constraints, teachers' ability in technology, and internet package constraints among students. This causes students' focus and motivation to learn to be less optimal.

The student analysis shows the need for more varied and interactive learning media, especially those that are game-based and close to students' daily lives, such as the UNO card, which can increase interest, enthusiasm, and motivation to learn. Task analysis aims to determine appropriate activities and questions in game-based learning media, while concept analysis determines the subject matter of economic growth and development, including growth rates, growth theories, development concepts, indicators, differences in economic growth and development, and factors that affect economic development.

Furthermore, the analysis of learning objectives refers to the applicable Learning Objectives Flow (ATP), with a focus on students being able to understand and explain the concept of economic growth and development as well as analyze the phenomenon of economic growth and development in Indonesia. By considering the constraints of internet packages and the limitations of conventional methods, the development of this game-based learning media is expected to increase student interaction, motivation, and learning outcomes more effectively.

Design

The design stage constitutes a critical phase in the development of UNO card-based learning media, as it transforms conceptual ideas into a structured instructional prototype. At this stage, an initial draft of the learning media is systematically developed by integrating economic growth and development materials into a game-based format. The design process begins with determining the overall structure of the media, which includes several essential components such as question cards, judge cards, material guides, teacher manuals, game rules, answer keys, and packaging design. Each component is carefully planned to ensure alignment with instructional objectives and student learning needs. The question cards serve as the core element of the media, embedding key concepts and problems related to economic growth and development. Meanwhile, supporting components such as material guides and teacher manuals are designed to provide clear instructional directions and facilitate effective classroom implementation. This comprehensive structure ensures that the learning media is not only engaging but also pedagogically sound and systematically organized.

In designing the UNO card media, the original characteristics of the traditional UNO game are retained while being pedagogically adapted to support learning objectives. The media incorporates standard UNO elements, including number cards and action cards such as +2, reverse, skip, +4, and color-free cards, which are modified to include subject-related tasks and challenges. Additionally, judge cards are introduced as an innovative feature to enhance interaction and create a more dynamic learning environment. These modifications are intended to maintain the familiarity and enjoyment associated with the original game while embedding meaningful educational content. The integration of game mechanics with instructional material encourages active participation, critical thinking, and collaborative learning among students. Furthermore, visual and textual elements are carefully designed to ensure clarity, readability, and attractiveness. By combining educational content with interactive gameplay, the design aims to create a balanced learning experience

that promotes both engagement and conceptual understanding.

The technical development of the media prototype is carried out using digital design tools such as Canva and Microsoft Word, which facilitate the creation of visually appealing and well-structured learning materials. The initial draft includes detailed designs of both the front and back sides of the cards, ensuring consistency in layout, typography, and color schemes. In addition to card design, a media flowchart is developed to illustrate the sequence of gameplay and instructional activities, providing a clear guide for implementation. Supporting materials such as the cover page, introductory and core sections of the material guide, teacher instructions, game rules, and answer keys are also systematically prepared. All components are designed in accordance with the Learning Outcomes (*Capaian Pembelajaran*/CP) and Learning Objective Flow (*Alur Tujuan Pembelajaran*/ATP) to ensure curriculum alignment and relevance. This alignment guarantees that the developed media not only meets aesthetic and functional standards but also supports the achievement of targeted learning outcomes effectively.

Development

The development stage represents the process of transforming the previously designed prototype into a tangible and functional learning product in the form of UNO card-based instructional media on economic growth and development materials. At this stage, all conceptual designs are systematically realized through a structured production process. The researcher integrates various components that have been prepared during the design phase, including card layouts, instructional content, game rules, teacher guides, and packaging elements, into a cohesive and unified product. This stage emphasizes not only the technical production of the media but also the pedagogical coherence among its components. Each element is carefully reviewed to ensure consistency in design, clarity of instructions, and alignment with the intended learning objectives. The development process also involves iterative refinement, where initial drafts are revised to improve both visual quality and instructional effectiveness. As a result, the final product is expected to function as an integrated learning system rather than a collection of separate materials.

A key aspect of this stage is the development of the UNO cards themselves, which serve as the central medium for learning activities. Each card is carefully designed to reflect specific learning outcomes outlined in the Independent Curriculum, ensuring that the content is relevant, accurate, and aligned with national educational standards. The question cards incorporate essential concepts of economic growth and development, such as growth rates, development indicators, and influencing factors, presented in a concise and

accessible format. In addition, the design of the cards considers the cognitive and developmental characteristics of grade XII students, including their ability to engage in analytical thinking and problem-solving. Visual elements such as color coding, typography, and layout are also optimized to enhance readability and maintain student interest. By combining well-structured content with engaging visual design, the cards are intended to facilitate both individual understanding and collaborative learning during gameplay.

In addition to the card components, supporting materials are developed to ensure the usability and effectiveness of the learning media in classroom settings. These include a comprehensive teacher guide, a material handbook, clearly defined game rules, and an answer key that provides accurate solutions for each question card. The teacher guide is designed to assist educators in implementing the media effectively, offering step-by-step instructions, learning strategies, and classroom management tips. Meanwhile, the material handbook provides a concise yet comprehensive overview of the subject matter to support student understanding. The development stage also includes the design of media packaging to ensure durability, organization, and ease of use. Before proceeding to the validation phase, the entire product undergoes internal review to identify and correct any inconsistencies or technical issues. This ensures that the final product meets both pedagogical and practical standards for classroom implementation.

Teacher's Handbook

The teacher's handbook is used as a guideline for teachers to make UNO cards independently and guide students in the learning process using UNO cards.

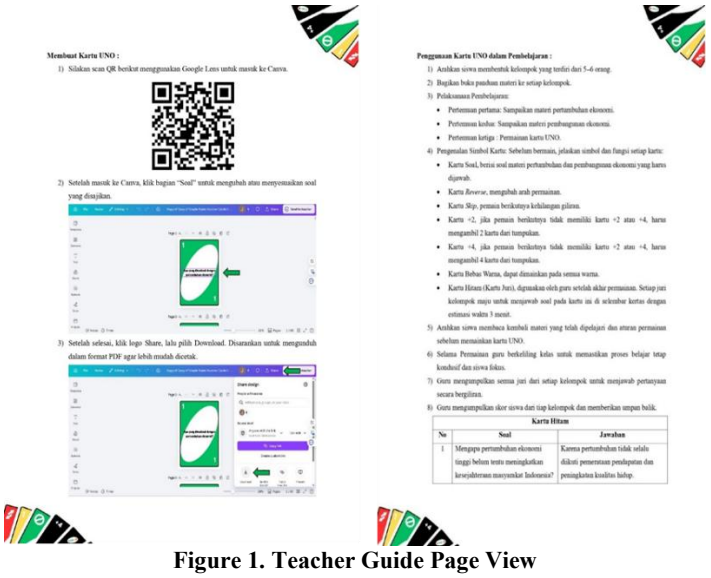


Figure 1. Teacher Guide Page View

The figure 1 illustrates the structure and functional role of the teacher's handbook as an integral component of the UNO card learning media. The handbook is designed as a practical guide that enables teachers to independently create and implement UNO-based instructional materials in the classroom. As shown on the left side of the figure, the handbook provides step-by-step technical instructions for designing UNO cards using digital tools, including accessing templates, editing question content, and exporting the final product for printing. This indicates that the handbook not only supports pedagogical implementation but also empowers teachers with the technical skills required to develop customized learning media. Such guidance is particularly important in contexts where teachers may have limited experience with instructional design tools, ensuring that the media can be reproduced and adapted sustainably.

On the right side, the handbook outlines detailed procedures for classroom implementation, including group formation, stages of learning activities, and rules of the UNO-based game. It integrates instructional flow with gameplay mechanics, beginning from material delivery to interactive learning through card play, and concluding with reflection and evaluation. The inclusion of sample questions and answer keys further enhances clarity and consistency in instruction. This structure reflects a well-organized learning scenario that promotes student engagement, collaboration, and active participation. Overall, the teacher's handbook serves as both a technical manual and a pedagogical framework, ensuring that the use of UNO card media is systematic, effective, and aligned with learning objectives.

Material Handbook

This section contains material that will be studied by students, including, the rate of economic growth, the theory of economic growth, the concept of economic development, the difference between economic development and economic growth, indicators of economic development, and factors that affect economic development.

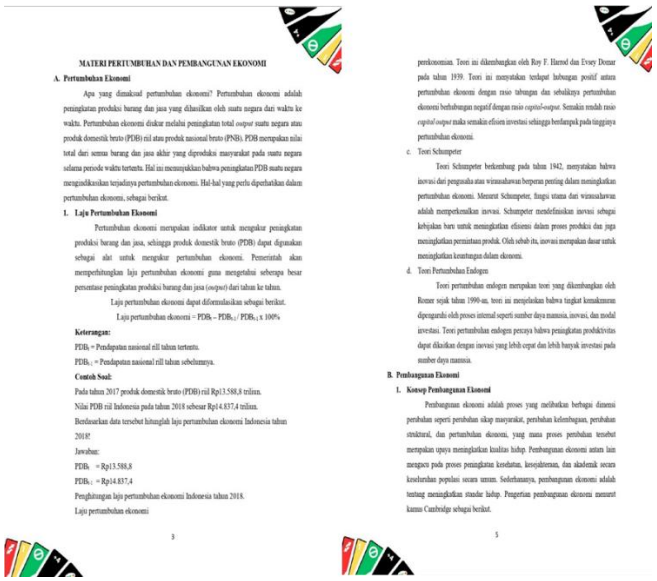


Figure 2. Material Guide Page View

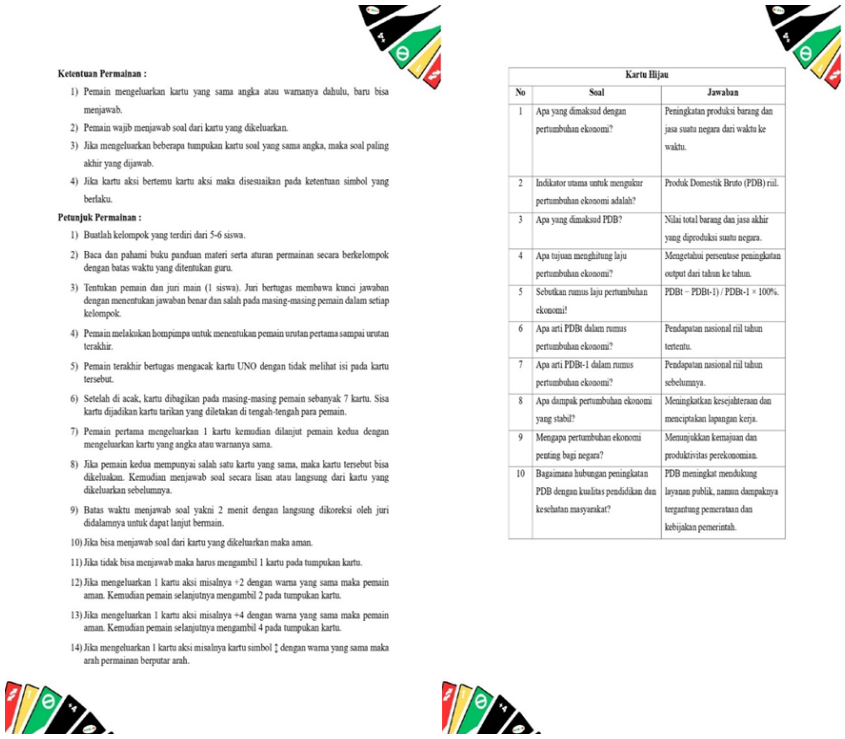
The figure 2 presents a section of instructional material on economic growth and development, which is integrated into the UNO card learning media. The left page focuses on the fundamental concept of economic growth, beginning with a clear definition that emphasizes the increase in the production of goods and services over time. The material then introduces economic growth as an important indicator measured through Gross Domestic Product (GDP). A formula for calculating the growth rate is provided, accompanied by detailed explanations of each variable to ensure conceptual clarity. Furthermore, the inclusion of a contextualized example problem demonstrates how theoretical concepts can be applied in real situations, guiding students through the process of calculating economic growth. This structured presentation from definition, to formula, to application reflects a pedagogically sound approach that facilitates progressive understanding and supports students in mastering both conceptual and procedural knowledge.

Meanwhile, the right page extends the discussion to include major theories of economic growth, such as the Harrod-Domar theory, Schumpeter's theory of innovation, and endogenous growth theory, followed by an introduction to the concept of economic development. Each theory is presented concisely, highlighting its core assumptions and contributions, such as the role of investment, innovation, and human capital in driving economic growth. The transition to economic development broadens the perspective by emphasizing multidimensional aspects, including structural changes, institutional transformation, and improvements in quality of life. This indicates that the material is designed not only to convey factual knowledge but also to develop students' analytical understanding of economic phenomena. Overall, the content

demonstrates a comprehensive and well-organized instructional design that supports both the theoretical and practical dimensions of learning, making it highly suitable for integration into interactive, game-based learning environments.

Game Rule Book & Answer Key

The game rule book and answer key contain guidelines related to how to play UNO cards and provide answer keys for each question card.



Ketentuan Permainan :

1) Pemain mengeluarkan kartu yang sama angka atau warnanya dahulu, baru bisa menjawab.
2) Pemain wajib menjawab soal dari kartu yang dikeluarkan.
3) Jika mengeluarkan beberapa tumpukan kartu soal yang sama angka, maka soal paling akhir yang dijawab.
4) Jika kartu aksi bertemu kartu aksi maka disesuaikan pada ketentuan simbol yang berlaku.

Petunjuk Permainan :

1) Buatlah kelompok yang terdiri dari 5-6 siswa.
2) Baca dan pahami buku panduan materi serta aturan permainan secara berkelompok dengan batas waktu yang ditentukan guru.
3) Tentukan pemain dan juri main (1 siswa). Juri bertugas membawa kunci jawaban dengan menentukan jawaban benar dan salah pada masing-masing pemain dalam setiap kelompok.
4) Pemain melakukan hompimpa untuk menentukan pemain urutan pertama sampai urutan terakhir.
5) Pemain terakhir bertugas mengacak kartu UNO dengan tidak melihat isi pada kartu tersebut.
6) Setelah di acak, kartu dibagikan pada masing-masing pemain sebanyak 7 kartu. Sisa kartu dijadikan kartu tarikan yang diletakan di tengah-tengah para pemain.
7) Pemain pertama mengeluarkan 1 kartu kemudian dilanjut pemain kedua dengan mengeluarkan kartu yang angka atau warnanya sama.
8) Jika pemain kedua mempunyai salah satu kartu yang sama, maka kartu tersebut bisa dikeluakan. Kemudian menjawab soal secara lisan atau langsung dari kartu yang dikeluarkan sebelumnya.
9) Batas waktu menjawab soal yakni 2 menit dengan langsung dikoreksi oleh juri didalamnya untuk dapat lanjut bermain.
10) Jika bisa menjawab soal dari kartu yang dikeluarkan maka aman.
11) Jika tidak bisa menjawab maka harus mengambil 1 kartu pada tumpukan kartu.
12) Jika mengeluarkan 1 kartu aksi misalnya +2 dengan warna yang sama maka pemain aman. Kemudian pemain selanjutnya mengambil 2 pada tumpukan kartu.
13) Jika mengeluarkan 1 kartu aksi misalnya +4 dengan warna yang sama maka pemain aman. Kemudian pemain selanjutnya mengambil 4 pada tumpukan kartu.
14) Jika mengeluarkan 1 kartu aksi misalnya kartu simbol ⇅ dengan warna yang sama maka arah permainan berputar arah.

Kartu Hijau

No	Soal	Jawaban
1	Apa yang dimaksud dengan pertumbuhan ekonomi?	Peningkatan produksi barang dan jasa suatu negara dari waktu ke waktu.
2	Indikator utama untuk mengukur pertumbuhan ekonomi adalah?	Produk Domestik Bruto (PDB) riil.
3	Apa yang dimaksud PDB?	Nilai total barang dan jasa akhir yang diproduksi suatu negara.
4	Apa tujuan menghitung laju pertumbuhan ekonomi?	Mengetahui persentase peningkatan output dari tahun ke tahun.
5	Sebutkan rumus laju pertumbuhan ekonomi?	PDBt − PDBt-1) / PDBt-1 × 100%.
6	Apa arti PDBt dalam rumus pertumbuhan ekonomi?	Pendapatan nasional riil tahun tertentu.
7	Apa arti PDBt-1 dalam rumus pertumbuhan ekonomi?	Pendapatan nasional riil tahun sebelumnya.
8	Apa dampak pertumbuhan ekonomi yang stabil?	Meningkatkan kesejahteraan dan menciptakan lapangan kerja.
9	Mengapa pertumbuhan ekonomi penting bagi negara?	Menunjukkan kemajuan dan produktivitas perekonomian.
10	Bagaimana hubungan peningkatan PDB dengan kualitas pendidikan dan kesehatan masyarakat?	PDB meningkat mendukung layanan publik, namun dampaknya tergantung pemerataan dan kebijakan pemerintah.

Figure 3. Page View Game Rules & Answer Key

The figure 3 illustrates two important components of the UNO card learning media, namely the game rules and the question–answer cards, which together support both the procedural and cognitive aspects of learning. On the left side, the game rules are presented in a clear and sequential format, outlining how the game should be played in the classroom. The rules include instructions such as matching cards based on color or number, answering questions when a card is played, and responding to special action cards according to predefined conditions. This structured set of rules ensures that the learning process remains organized while maintaining the interactive and competitive nature of the game. By embedding instructional tasks within the gameplay mechanics, the design encourages active participation, immediate feedback, and collaborative learning among students, which are essential elements in student-centered learning environments.

On the right side, the figure displays an example of a question card categorized as "*Kartu Hijau*" (Green Card), which contains structured columns for question and answer. The sample question focuses on the definition of economic growth, with a corresponding answer that emphasizes the increase in the production of goods and services over time. This format demonstrates how academic content is integrated directly into the game, transforming traditional assessment into an engaging learning activity. The use of categorized cards allows for systematic organization of topics, while the inclusion of answer keys ensures accuracy and consistency in learning outcomes. Overall, this component reflects a well-designed instructional strategy that combines gameplay with formative assessment, enabling students to reinforce their understanding of key economic concepts in an interactive and enjoyable manner.

UNO Card

There are 76 cards with details of 50 question cards (red, yellow, green, blue, orange), 5 reverse cards (red, yellow, green, blue, orange), 5 skip cards (red, yellow, green, blue, orange), 5 +2 cards (red, yellow, green, blue, orange), 5 +4 cards (red, yellow, green, blue, orange), 5 color-free cards (red, yellow, green, blue, orange), and 1 black card.

Figure 4. UNO Card Display

The figure 4 appears to present a structured worksheet or assessment grid related to learning materials, likely used as part of the UNO card learning media evaluation or supporting exercises. It includes tabular columns labeled with letters and segmented rows that seem to organize different items, questions, or categories of responses. Additionally, small illustrative icons within certain cells suggest the integration of visual cues to support comprehension or classification tasks. The layout indicates a systematic approach to organizing student activities, possibly for matching, identifying, or analyzing concepts in a guided format. This type of visual-structured worksheet supports active learning by helping students

categorize information, recognize patterns, and engage more interactively with the material, thereby reinforcing conceptual understanding through both textual and visual elements.

Disseminate

Validity of UNO Card Learning Media

The validity of the UNO card learning media was determined through a validation process conducted by media experts and subject matter experts. The media validation involved two expert validators, and the results of their assessments are presented in Table 1. The findings indicate that the developed UNO card learning media achieved a very high level of validity, with an average percentage score of 93.5%, which falls into the "very valid" category.

The validity assessment was based on several key aspects, including suitability, teacher usability, ease of use, availability, usefulness, visual display, text clarity, and image quality. The results demonstrate that the media achieved very high validity in terms of suitability, as the content aligns well with the learning objectives and corresponds to students' characteristics, particularly their preference for interactive and game-based learning media. In addition, the media also showed strong validity in terms of availability, as it can be used without requiring internet access or additional technological devices, making it flexible and adaptable to various classroom conditions.

However, in the text aspect, the media obtained a "valid" category rather than "very valid." Expert feedback indicated that the initial background color used in the material guide and game rules reduced text readability due to insufficient contrast with the font color. Based on this input, revisions were made by changing the background color from blue to white to improve readability and visual comfort. This refinement enhances the clarity of written instructions and supports more effective use of the learning media.

In terms of teacher usability and ease of implementation, the modified UNO card media enables teachers to deliver learning materials in a more interactive manner, reducing monotony in the classroom. The game rules are designed to be simple and familiar, as they are adapted from conventional UNO gameplay, allowing the media to be implemented with minimal instruction. Furthermore, the usefulness aspect of the media is reflected in its potential to create a more engaging and enjoyable learning environment, where students feel more relaxed and motivated during the learning process. The visual design of the media, which incorporates varied colors and relevant images, further contributes to its attractiveness and aligns with students' learning preferences, thereby enhancing overall engagement and participation.

Table 1. Expert Validation Recapitulation

Yes	Validator	Percentage (%)	Criteria

1	Media Member	93,5	Highly Valid
2	Material Expert	100	Highly Valid
	Average	96,75	Highly Valid

In table 1, you can see the results of the validity of the material experts carried out by two validators who showed a very high level of validity with very valid criteria with a percentage of 100%. The assessment of UNO card learning media is carried out based on curriculum, materials, language, and evaluation aspects, where all aspects obtain a very high level of validity. The UNO card learning media was declared very valid because the questions presented were in accordance with CP and ATP in economic growth and development materials. This suitability shows that the media developed has been aligned with the demands of the applicable curriculum so that it can support the achievement of learning objectives optimally. The material in the question card has been adjusted to the characteristics of grade XII students and presented systematically so that it is easy to understand. In addition, the use of language is considered appropriate, consistent, and in accordance with the characteristics of students so that it makes it easier for students to understand the questions, game instructions and the content of the material delivered through learning media. The questions presented in the UNO card learning media have been in accordance with the material studied.

Practicality of UNO Card Learning Media

After the developed learning media is declared valid, the next stage is to carry out a trial to identify the level of practicality of the media. The practicality assessment is based on the results of the student response questionnaire. The results of the learning media trial in small groups can be seen in table 2. Based on the data presented in the table, it is known that the response of students in the small group trial to the use of learning media reached a percentage of 94.4%. This percentage indicates that the learning media developed is classified as very practical, so it is suitable for use in the learning process based on user assessment.

Table 2. Recapitulation of Student Response Results

Yes	Trial	Percentage (%)	Category
1	Small groups	94,4	Very Practical
2	Large groups	94,4	Very Practical
	Average	94,4	Very Practical

To find out the practicality of media in a larger scope, a large group trial was carried out involving 34 students. The aim of this trial was to measure the practicality of media in real learning situations, with more variation of student characteristics. The results of the questionnaire presented in table 2 show a

percentage result of 94.4%. This percentage also shows that media is in the very practical category. These results are then recapitulated together with the results of the small group trial in table 2, which shows an average achievement of 94.4% which is in the very practical category. This average score indicates that the UNO card-based learning media developed is able to be used well by students from various ability backgrounds.

Discussion

The findings of this study demonstrate that the developed UNO card learning media achieved a very high level of validity (96.75%) and practicality (94.4%), indicating its strong feasibility as an instructional tool in economics learning. These results are consistent with prior studies that reported high validity of game-based learning media through expert validation processes (Agustriyani et al., 2024; Alfarabi, 2020). The alignment between the developed media and curriculum standards (CP and ATP) further strengthens its instructional relevance, which has been identified as a key determinant of effective learning media design. In addition, the suitability of the content with students' characteristics reflects the importance of contextual and learner-centered approaches, as highlighted in previous research emphasizing the role of interactive media in improving student motivation and engagement (Nur et al., 2023). However, unlike earlier studies that primarily focused on general subject areas, this research specifically addresses economic growth and development materials, which are conceptually complex, thereby contributing to a more specialized application of game-based learning in social science education.

From the perspective of practicality, the consistently high student response scores in both small and large group trials confirm that the UNO card learning media is highly usable and well-accepted by learners. This finding aligns with previous studies indicating that UNO-based learning media can significantly enhance student participation, motivation, and classroom interaction (Jumaroh et al., 2022; Kurniawan et al., 2023; Mahartika et al., 2020; Rosita et al., 2022; Kurniati et al., 2025). The integration of competitive and interactive elements within the game structure encourages active engagement and immediate feedback, which are essential for effective learning processes (Sulistiyanti & Fitria, 2020; Bikalawan et al., 2024). Furthermore, the results reinforce earlier findings that learning environments incorporating elements of play can reduce student anxiety and create a more enjoyable learning atmosphere (Wahyu, 2021). Compared to conventional methods that tend to be teacher-centered and monotonous, the UNO card media provides a more dynamic and student-centered learning experience, thereby addressing the issues of low engagement and motivation identified in the preliminary analysis.

In addition, the visual and structural design of the media plays a crucial role in its effectiveness and usability. The use of appropriate typography, color variations, and relevant images contributes to improved readability and student interest, supporting findings from previous studies on the importance of visual design in instructional media (Fernando & Deli, 2023; Tanjung & Faiza, 2019; Putri & Kristiana, 2022). The revision made based on expert feedback particularly the adjustment of background color to enhance text clarity demonstrates the importance of iterative design in improving media quality. Moreover, the incorporation of structured components such as teacher guides, material handbooks, and game rules ensures that the media is not only engaging but also systematically organized and easy to implement. This is consistent with earlier research emphasizing that well-designed instructional media should combine aesthetic appeal with pedagogical functionality to maximize learning outcomes.

The findings of this study also provide important theoretical implications. The effectiveness of the UNO card learning media supports the principles of constructivist learning theory, which emphasize active participation, interaction, and knowledge construction through meaningful experiences. The game-based approach encourages students to engage in discussion, problem-solving, and collaborative learning, thereby facilitating deeper understanding of economic concepts. In addition, the results align with the theoretical framework of game-based learning, which posits that the integration of challenge, competition, and enjoyment can enhance both cognitive and affective learning outcomes. By demonstrating that non-digital, game-based media can effectively support learning in contexts with limited technological access, this study also contributes to the discourse on equitable and inclusive education. This is particularly relevant in addressing the challenges of digital distraction and limited access to technology highlighted in previous studies (Nabilah, 2025; Ainani et al., 2024).

From a practical perspective, this study offers a scalable and accessible instructional solution for teachers, particularly in contexts where digital infrastructure is limited. The UNO card learning media can be easily implemented without requiring internet access, making it a flexible alternative to technology-dependent learning tools. The simplicity of the game rules and the familiarity of the UNO format allow for efficient classroom integration, even for teachers with limited experience in innovative instructional design. Furthermore, the adaptability of the media enables its application across different learning contexts and student ability levels. Despite these strengths, this study is limited by its focus on validity and practicality without examining the effectiveness of the media in improving learning outcomes. Future research is therefore recommended to employ experimental designs and larger sample sizes to assess the impact of UNO card learning media on students' academic achievement and

higher-order thinking skills. Nevertheless, the present findings provide strong evidence that UNO card-based learning media can serve as an innovative, engaging, and practical approach to enhancing economics education.

CONCLUSION

The most important finding of this study highlights that the development of UNO card-based learning media offers a meaningful pedagogical innovation by successfully integrating game elements into economics learning, particularly in complex topics such as economic growth and development. The study demonstrates that learning media designed with interactive, competitive, and student-centered principles can significantly enhance engagement, motivation, and usability, even in contexts with limited technological access. The key lesson drawn from this research is that effective learning does not always require sophisticated digital tools; rather, well-designed, contextually relevant, and pedagogically grounded media can create equally impactful learning experiences. This study also contributes to the academic field by strengthening the empirical evidence on game-based learning within social science education, an area that remains relatively underexplored compared to STEM disciplines. By aligning instructional design with constructivist and game-based learning theories, this research provides a valuable framework for developing innovative, inclusive, and accessible learning media.

Despite these contributions, this study has several limitations that should be acknowledged. First, the research focuses only on the validity and practicality of the developed media without examining its effectiveness in improving students' learning outcomes or higher-order thinking skills. Second, the study was conducted in a single school with a limited sample size, which may restrict the generalizability of the findings to broader educational contexts. Therefore, future research is recommended to employ experimental or quasi-experimental designs to measure the impact of UNO card learning media on student achievement, critical thinking, and long-term retention. Additionally, further studies could explore the adaptation of this media to other subjects, educational levels, and diverse learning environments, as well as integrate hybrid approaches that combine game-based and digital learning innovations.

REFERENCES

Agustriyani, Hendracipta, & Syachruroji. (2024). Development of Uno Card Game Learning Media in Science Subject Ecosystem Material. Pendas Lens Journal, 9(2), 162–176. https://doi.org/10.33222/jlp.v9i2.3971

Ainani, Hasanah, & Khasanah. (2024). Analysis of Concentration Disorders in Learning: A Review of the Literature on Causative Factors and Effective Interventions. Islamic Education and Counseling Journal, 5(1), 2024. https://jurnal.stitihsanulfikri.ac.id/index.php/iecj/article/view/88

Alfarabi. (2020). Development of U-Eco Learning Media to Increase Learning Motivation of Students of Class X Ips 1 SMA N 4 Bangkalan Academic Year 2018/2019. Journal of Economic Education (JUPE), 8(1), 7–14. https://doi.org/10.26740/jupe.v8n1.p7-14

Bikalawan, S. S., Al Ardha, M. A., Indahwati, N., Wijaya, A., Nurhasan, N., Ridwan, M., & Yang, C. B. (2024). Flash Card Learning Media in Physical Education Improves Students' Locomotor Movement Skills. Retos, 57, 80–87. https://doi.org/10.47197/retos.v57.105460

Candra, & Wayan. (2022). Website-Based Educational Game Learning Media on Science Content of Human Digestive System Materials for Grade V Elementary School. Journal of Media and Educational Technology, 2(1), 32–40. https://doi.org/10.23887/jmt.v2i1.44879

Fernando, H., & Deli. (2023). Analysis of Webtoon Design as a Promotional Media for Batam Seafood Culinary Using the Design Thinking Method. Journal of Information System Research (JOSH), 4(2), 382–391. https://doi.org/10.47065/josh.v4i2.2726

Irawan, & Arif. (2021). The Practicality of Mathematics Comic Learning Media in Junior High School/MTs Class VII Collection Materials. Pythagoras: Journal of the Mathematics Education Study Program, 10(1), 91–100. https://doi.org/10.33373/pythagoras.v10i1.2934

Jumaroh, Permata, & Yaroh. (2022). Development of UNO Game Media in Mathematics Learning Integer Operations. International Journal of Technology and Modeling, 1(1), 22–27. https://doi.org/10.63876/ijtm.v1i1.5

Kurniati, Sugiarto, Andi, & Sairlona. (2025). The Development of Uno Cards as a Mathematics Learning Media Associated with Traditional Games. Prismatics: Journal of Mathematics Education and Research, 7(2), 236–247. https://doi.org/10.33503/prismatika.v7i2.892

Kurniawan, Ratnawuri, & Ningrum. (2023). Development of Uno Card Learning Media in Class XI National Income Material at SMA Negeri 1 Pekalongan for the 2021/2022 Academic Year. (2), 195–202. https://doi.org/10.24127/edunomia.v3i2.3731

Mahartika, Afrianis, Okmarisa, Dian, Diniya, Ilhami, & Hermita. (2020). A Modification of UNO Games: "Chemuno Card Games (CCG)" Based on "Chemistry Triangle" to Enhance Memorization of the Periodic Table. Universal Journal of Educational Research, 8(12B), 8411–8419. https://doi.org/10.13189/ujer.2020.082647

Muslimin, A. I., & Harintama, F. (2022). Developing UNO English Card Game and Its Impact to the EFL Students' Descriptive Writing Performance. Elite Journal, 4(2), 127–138. https://doi.org/10.30984/jeltis.v2i2.2050

Nabilah, A. M. (2025). Exploring Students' Perceptions of the Use of Technology in Learning. Journal of Teacher Education Madrasah Ibtidaiyah Al-Amin, 4(1), 39–52. https://doi.org/10.54723/ejpgmi.v4i1.230

Nur, Hendracipta, & Andriana. (2023). Development of Jenga Pintar Educational Game Media (Jetar) Ecosystem Theme to Increase the Learning Interest of Elementary School Students. EDUCATION: Journal of Research & Educational Articles, 15(2), 213–230. https://doi.org/10.31603/edukasi.v15i2.10508

Octaviani, S. D., & Mulyawati, I. (2025). Modifying UNO Cards as Learning Media for Enhancing Numeracy Skills of Elementary Students in Whole Number Topic. Edumatika: Jurnal Riset Pendidikan Matematika, 8(2), 162–180. https://doi.org/10.32939/ejrpm.v8i2.5849

Putri, S. S., & Kristiana, N. (2022). Designing Physicist Caricature Flashcards as a Learning Media for Junior High School Students. Journal of Barik, 3(3), 30–44. https://doi.org/https://doi.org/10.26740/jdkv.v3i3.48083

Revelation. (2021). The Implementation of Games in Mathematics Learning in Elementary Schools. Scholars, 3(1), 59–64. https://doi.org/10.35438/cendekiawan.v3i1.218

Riki, Prayitno, Baidowi, & Amrullah. (2022). Development of Augmented Reality Application as a Learning Media for Building Flat Side Spaces for Class VIII SMP Negeri 13 Mataram. PALAPA (Journal of Islamic Studies and Education), 10(2), 198–216. https://doi.org/10.36088/palapa.v10i2.1897

Rosita, Rohman, & Effendi. (2022). Development of Uno Physics Card Learning Media Using the Team Games Tournament Learning Model of Newton's Style and Law Material. U-Teach: Journal Education of Young Physics Teacher, 3(1), 1–6. https://doi.org/10.30599/uteach.v3i1.71

Sinta, & Nyoman. (2021). Development of Problem-Based Learning Powtoon Learning Media in Elementary School Class V Science Content Ecosystem Materials. Scientific Journal of Teacher Professional Education, 4(2), 288–298. https://doi.org/10.23887/jippg.v4i2.32848

Sulistiyanti, D., & Fitria, E. (2020). The Effect of UNO Card Simulation Game Engineering Group Guidance Services on Career Exploration. Proceedings of the 2020 National Seminar & Workshop on Guidance and Counseling, 29–49. https://doi.org/10.1234/pdabkin.v1i2.83

Susilawati, W. O., Marlianda, R., & Rizkia, D. P. (2024). Electronic Development of Student Worksheets (e-LK) Assisted by Liveworksheets in Pancasila Education Learning Class V in Elementary Schools. INNOVATIVE: Journal Of Social Science Research, 4(3), 14686–14699. https://doi.org/10.31004/innovative.v4i3.12282

Szilágyi, S., Körei, A., & Vaičiulytė, I. (2025). The Role of Non-Digital and Digital UNO-Type Card Games as Learning Media in Different Levels of Mathematics Education: A Systematic Review. Education Sciences, 15(8), 1030. https://doi.org/10.3390/educsci15081030

Tanjung, R. E., & Faiza, D. (2019). Canva as a Learning Media for Basic Electrical and Electronics Subjects. Vocational Journal of Electronics and Informatics Engineering, 7(2), 83. http://ejournal.unp.ac.id/index.php/voteknika/index

Wibawa, I. M. C., Rati, N. W., Werang, B. R., & Deng, J.-B. (2024). Increasing Science Learning Motivation in Elementary Schools: Innovation with Interactive Learning Videos Based on Problem-Based Learning. Jurnal Pendidikan IPA Indonesia, 13(3). https://doi.org/10.15294/jrn6jh97

Yanuari, A. D., Mardianingsih, D., Rosita, E., & Wijayanti, M. D. (2024). Development of UNO Card Game Learning Media in Indonesian Language Subjects to Improve the Literacy of Grade 2 Elementary School Students. Social, Humanities, and Educational Studies (SHES): Conference Series, 7(3). https://doi.org/10.20961/shes.v7i3.92637