



Development of Sand Glass Game Media to Understand Elementary School Students' Time Management in Classical Guidance

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ABSTRACT

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This study aimed to develop the Sand Glass Game Media as a supporting medium for classical guidance services to help students understand time management. The study employed a Research and Development (R&D) method using the 4D development model, which was limited to the Define, Design, and Develop stages. The research subjects consisted of 22 sixth-grade students from Class VI-A at SDN 101873 Desa Baru. Data were collected through observations, interviews, a needs analysis questionnaire, media expert and material expert validation, as well as teacher and student response questionnaires. The data were analyzed using descriptive quantitative techniques. The results showed that the needs analysis yielded a percentage of 66.34%, indicating that students required supporting media. The 16-item needs analysis instrument was declared valid, with calculated r values ranging from 0.444 to 0.616, which were higher than the critical r value of 0.432, and reliable, with a Cronbach's Alpha coefficient of 0.806. The media expert validation results yielded a percentage of 89.29%, while the material expert validation results reached 85.94%; both were categorized as highly valid. The practicality test yielded a percentage of 91.30% based on teacher responses and 88.16% based on student responses, both of which were categorized as highly practical. Therefore, the Sand Glass Game Media was considered valid and practical for use as a supporting medium in classical guidance services to help students understand time management. However, this study did not examine the causal effectiveness of the media in improving students' time management skills. Therefore, future research is recommended to employ an experimental or quasi-experimental design with a larger and more diverse sample.

Keywords: *Classical Guidance, Research And Development, Sand Glass Game Media, Time Management.*

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INTRODUCTION

Time management is one of the important skills that should be introduced since elementary school because it relates to students' ability to organize various activities in a planned and responsible way (Iskandar, Mesiono, & Sit, 2025). Students need to understand how to divide

their time between studying, doing assignments, playing, resting, and doing other activities. This understanding helps students recognize priorities, use time purposefully, and realize that the time available is limited (Liu & Lu, 2024). Therefore, introducing time management early on becomes an important part of supporting the development of students' independence and responsibility in both daily life and learning activities.

In practice, elementary school students can still have difficulty managing and using their time properly (Lee & Hancock, 2024). Behaviors like procrastinating on tasks, playing for too long, having trouble deciding which activities to prioritize, and not being used to making simple plans show the importance of teaching time management in a way that matches a child's developmental characteristics. This material isn't just something you can explain verbally; it also needs to be supported with concrete, engaging learning experiences that actively involve the students (Mukhlis, Huda, & Hermina, 2024). This situation makes guidance and counseling services, especially classical guidance, one of the avenues that can be used to provide an understanding of time management in a systematic way.

Classical guidance allows guidance and counseling teachers or counselors to deliver material to students in class groups through planned activities. To avoid the service being monotonous, using interactive learning media can help create a more enjoyable service atmosphere while also making it easier for students to understand the material (Sipahutar & Nurhayani, 2024). One alternative that can be developed is an hourglass game. The hourglass has simple visual characteristics because it shows the process of sand moving from one part to another within a certain time limit. This concept can be used as a concrete representation of time that keeps moving and cannot be repeated, and then linked to various student activities in everyday life.

The sandglass game media can be designed by incorporating elements of play, challenges, questions, and reflections related to time management. Through this game, students can be encouraged to recognize which activities are priorities, estimate the time needed to complete a task, and understand the importance of using time in an organized way. Reflection activities after the game can give students a chance to connect their gaming experience with their habits in managing time (Suryanti & Utami, 2024). Thus, the hourglass game is positioned as a supportive tool for the understanding process, rather than a medium that is directly claimed to have proven to improve students' time management skills.

Based on that need, this study is aimed at developing a sandglass game media that can be used in classroom guidance services for students at SDN 101873 Desa Baru. The development is done to produce media that matches the students' characteristics as well as the time management material and can support the implementation of services in a more concrete, interactive, and engaging way. This study focuses on the process of development, validation, and refinement of the media according to the steps of Research and Development (R&D), so it is not intended to test effectiveness through an experimental design. Therefore, this study is titled "Development of Sandglass Game Media as Classroom Guidance Media to Understand Time Management for Students at SDN 101873 Desa Baru."

Research on student time management has been done using various approaches. (Ikhwaniah & Purwoko, 2023) researching elementary school students' understanding of time management in daily activities and found that providing video-based material can improve students' understanding. Next, (Selgi & Purwoko, 2024) developed a classical service strategy based on Gimkit and Understanding by Design to improve students' time management skills; the study used classroom action research, so it focused on changes in abilities after the intervention

was applied. Meanwhile, Sholihah, Awalya, & Aisyah (2024) used the traditional hopscotch game in group guidance services to improve high school students' study time management and to find differences in scores before and after the intervention. These findings show that visual media, games, and guidance services can be used to support learning or the development of time management skills, but previous research has mostly focused on effectiveness or skill improvement, rather than on developing concrete media specifically designed for elementary school students in class guidance services.

The research gap is also seen in the development of game media in classroom guidance services. (Masrurroh, Asri, & Setijarini, 2025) Developing archery game media to train students' self-disclosure through classical guidance services using the R&D 4D model method was limited to the develop stage, so the study shows that the game can be developed as a valid and practical guidance service medium. In addition, (Nurhidayah, 2026) shows that game-based learning with card game media can be used in classroom guidance services to help address students' insecurities. (Wijaya, Asri, & Mariana, 2026) It also found that classical guidance services based on game-based learning can be used in developing students' self-efficacy. However, those studies have not yet developed sand timer games as a concrete medium for understanding time management for elementary school students. Therefore, the research gap in this study lies in the absence of a game medium that integrates the visualization of time limitations through a sand timer with time management materials and the mechanisms of classical guidance services at the elementary school level.

The novelty of this research lies in the development of a sandglass game medium that integrates elements of time visualization, game activities, questions about activity priorities, duration management, and student reflection into a single sequence of classroom guidance services. Unlike previous studies that used videos, Gimkit, hopscotch, cards, or Archery games, the media developed in this study uses a sandglass as a concrete representation that time keeps moving and is limited. This novelty is further reinforced by the development context aimed at the needs of students at SDN 101873 Desa Baru. Since the research uses an R&D approach and stops at the Development stage, the study's contribution is emphasized on producing media that is feasible and practical as a support for classroom guidance services, rather than proving its effectiveness in improving time management skills.

METHODS

This study uses the Research and Development (R&D) method to develop the Sand Glass Game Media as a classroom guidance tool to help students understand time management (Sugiyono, 2022). The development model refers to 4D (Define, Design, Develop, and Disseminate), which was developed by (Thiagarajan, Semmel, & Semmel, 1974), but this research is limited to the Develop stage. The Define stage was carried out through observations, teacher interviews, and student needs analysis questionnaires to identify problems and time management indicators. The Design stage includes preparing materials, game rules, time and challenge cards, activity sheets, manuals, and lesson plans. The Develop stage involves expert validation, revisions based on validator suggestions, and limited trials with students and teachers. The Disseminate stage was not carried out because the research focuses on the development and initial testing of the product.

Table 1. Development Stages

Stage	Activities	Output
Define	Observation, interviews, needs analysis, and identification of indicators	Identified needs, objectives, and time management indicators
Design	Designing the materials, game, media components, guidance lesson plan (RPL), and research instruments	Initial prototype
Develop	Validation, revision, and limited trial	Validated product and practicality data
Disseminate	Not implemented	—

The research subjects are all the students of class VI-A at SDN 101873 Desa Baru, totaling 22 students. All the students were involved in the needs analysis and limited trial, so a saturated sampling technique was used (Arikunto, 2021). Class selection is based on the results of teacher observations and interviews that show a need for understanding time management and the lack of game media specifically used in classroom guidance services. Media development is based on four indicators: setting goals, determining priorities, making a schedule, and minimizing distractions. These indicators are translated into the game through activities like choosing tasks, selecting priorities, arranging schedules, and completing challenge cards within the time limit shown by the hourglass.

Table 2. Components and Functions of Media

Component	Function
Sand Glass	Visualizes the limited nature and passage of time
Time Cards	Guides students in managing the duration of activities
Challenge Cards	Develops students' decision-making skills regarding time use
Smart Time Challenge Worksheet	Records and facilitates the processing of game activities
My Time Use Worksheet	Helps students reflect on their use of time
Game Guidebook	Explains the objectives, rules, and procedures of the game

The research instruments include observation and interview guidelines, a needs analysis questionnaire, a Student Time Management Questionnaire, validation sheets from content and media experts, as well as teacher and student response questionnaires. The needs analysis questionnaire was given to 22 students, while validation was carried out by one content expert and one media expert who are skilled in their respective fields. The validation instrument uses a Likert scale [1-4] and is designed based on content suitability, service objectives, time management indicators, student characteristics, appearance, readability, ease of use, and media component quality. The validators' comments are used as a basis for revising the product before the limited trial. The teacher and student response questionnaires are used to assess the practicality of the media after being used in class guidance sessions.

Table 3. Research Instruments

Instrument	Purpose	Respondents
Observation and Interviews	Identifying problems and needs	Researcher and teacher
Needs Analysis Questionnaire	Determining the need for supporting media	22 students
Material Expert Validation	Assessing the appropriateness of the materials	Material expert

Instrument	Purpose	Respondents
Media Expert Validation	Assessing the appropriateness of the media	Media expert
Teacher and Student Response Questionnaire	Assessing the practicality of the media	Teacher and 22 students

Validation and practicality data were analyzed descriptively in a quantitative way using percentages as follows:

$$P = \frac{\sum X}{\sum X_i} \times 100\%$$

Explanation:

P = percentage;

$\sum X$ = score obtained;

$\sum X_i$ = maximum score.

The percentage results are categorized as 81–100% very valid/practical, 61–80% valid/practical, 41–60% fairly valid/practical, 21–40% not valid/practical, and 0–20% very not valid/practical (Sugiyono, 2022). Media is considered suitable if it reaches at least the valid and practical category.

RESULTS AND DISCUSSION

Result

Needs Analysis

The needs analysis was conducted to obtain an initial overview of students' time management conditions as a basis for developing the Sand Glass Game Media for use in classical guidance services. The analysis was conducted by administering a questionnaire to 22 sixth-grade students from Class VI-A at SDN 101873 Desa Baru. The questionnaire covered four indicators of time management: setting goals, determining priorities, developing schedules, and minimizing distractions. The results of the needs analysis are presented in Table 4.

Table 4. Results of the Students' Needs Analysis

No.	Needs Analysis Aspect	Number of Items	Obtained Score	Maximum Score	Percentage	Category
1	Setting Goals	4	256	352	72.73%	Needs Supporting Media
2	Determining Priorities	4	231	352	65.63%	Needs Supporting Media
3	Developing Schedules	4	232	352	65.91%	Needs Supporting Media
4	Minimizing Distractions	4	215	352	61.08%	Needs Supporting Media
Total		16	934	1,408	66.34%	Needs Supporting Media

Based on Table 4, the needs analysis results indicate that the sixth-grade students of Class VI-A at SDN 101873 Desa Baru, overall, were categorized as needing supporting media to facilitate their understanding of time management, with an overall percentage of 66.34%. Among the individual indicators, the goal-setting aspect obtained the highest percentage at 72.73%, followed by developing schedules at 65.91%, determining priorities at 65.63%, and minimizing distractions at 61.08%. All indicators were categorized as needing supporting media. These findings indicate that students require support in setting activity goals, determining priorities, organizing activities according to the time available, and reducing distractions in their use of time. This condition provided the basis for developing concrete and interactive media in the form of a sand glass game for classical guidance services. The media was designed to provide students with more concrete learning experiences in understanding the limited nature of time, determining priorities, organizing activities, and reflecting on their use of time in everyday life.

Media Expert Validation

Media expert validation was conducted by a lecturer with expertise in instructional media development. The assessment covered the aspects of visual presentation, completeness of components, functionality, feasibility, and practicality of the media. The validation results were used as a basis for determining the feasibility of the Sand Glass Game Media before conducting a limited trial with students.

Table 5. Results of Media Expert Validation

No.	Media Expert Validation Aspect	Number of Items	Obtained Score	Maximum Score	Percentage	Category
1	Media Presentation	4	16	16	100%	Highly Valid
2	Glasses (Pieces)	3	12	12	100%	Highly Valid
3	Plastic Cups	3	12	12	100%	Highly Valid
4	Sand and Mini Shovel	4	16	16	100%	Highly Valid
5	Buffalo Image	4	12	16	75%	Valid
6	Time Cards	3	9	12	75%	Valid
7	Smart Time Challenge Worksheet	3	9	12	75%	Valid
8	My Time Use Worksheet	3	12	12	100%	Highly Valid
9	Game Guidebook	3	9	12	75%	Valid
10	Media Functionality and Feasibility	5	15	20	75%	Valid
11	Media Practicality	7	28	28	100%	Highly Valid
Total		42	150	168	89.29%	Highly Valid

Based on Table 5, the media expert validation resulted in an obtained score of 150 out of a maximum score of 168, corresponding to a percentage of 89.29%, which falls into the highly valid category. The highest rating of 100% was obtained for the aspects of media presentation, glasses, plastic cups, sand and mini shovel, the My Time Use Worksheet, and media practicality. Meanwhile, the buffalo image, time cards, Smart Time Challenge Worksheet, game guidebook,

and media functionality and feasibility each obtained a percentage of 75% and were categorized as valid. Overall, these results indicate that the components of the Sand Glass Game Media meet the required feasibility criteria in terms of visual presentation, completeness, functionality, and ease of use. Therefore, the media can be implemented in a limited trial after revisions have been made in accordance with the suggestions and comments provided by the media expert.

Content Expert Validation

In addition to validating the media aspects, the time management materials incorporated into the product were also validated by a guidance and counseling expert to assess the appropriateness of the content, presentation, language, and alignment with the characteristics of the students. The validation instrument consisted of 16 items covering four aspects: content appropriateness, presentation appropriateness, language appropriateness, and suitability for the students. The results of the material expert validation are presented in Table 6.

Table 6. Results of Material Expert Validation

No.	Material Expert Validation Aspect	Number of Items	Obtained Score	Maximum Score	Percentage	Category
1	Content Appropriateness	4	14	16	87.50%	Highly Valid
2	Presentation Appropriateness	4	12	16	75.00%	Valid
3	Material Language Appropriateness	4	14	16	87.50%	Highly Valid
4	Suitability for Students	4	15	16	93.75%	Highly Valid
Total		16	55	64	85.94%	Highly Valid

Based on Table 6, the material expert validation resulted in an obtained score of 55 out of a maximum score of 64, corresponding to a percentage of 85.94%, which falls into the highly valid category. Across the individual aspects, the highest percentage was obtained for suitability for students at 93.75%, followed by content appropriateness and material language appropriateness, each at 87.50%. Meanwhile, presentation appropriateness obtained a percentage of 75.00% and was categorized as valid. These results indicate that the time management materials incorporated into the Sand Glass Game Media are aligned with the objectives of classical guidance services, use appropriate presentation and language for learning, and are relevant to the characteristics of elementary school students. Therefore, based on the material expert's assessment, the media can proceed to the limited trial stage after taking into consideration the recommended revisions provided by the validator.

Validity and Reliability of the Instrument

Before being used for data collection, the Student Time Management Needs Analysis Questionnaire was first subjected to validity and reliability testing. The instrument consisted of 16 statement items covering four indicators: setting goals, determining priorities, developing schedules, and minimizing distractions. The validity test was conducted using the Pearson Product-Moment correlation with the assistance of SPSS. The instrument trial involved 22 sixth-grade students from Class VI-A, who were also the research subjects. All students in the class were included because the population was limited, and the entire population was involved in the study using a census sampling technique. The results of the validity test are presented in Table 7.

Table 7. Results of the Instrument Validity Test

Instrument	Number of Items	Range of Calculated r Values	Critical r Value	Interpretation
Student Time Management Needs Analysis Questionnaire	16	0.444–0.616	0.432	All items are valid

Based on Table 7, the calculated r values for all items ranged from 0.444 to 0.616, while the critical r value was 0.432 at the 5% significance level. Since all calculated r values were greater than the critical r value, all 16 items were declared valid and suitable for use in data collection. Subsequently, the reliability of the instrument was tested using Cronbach's Alpha coefficient to determine the internal consistency among the statement items.

Table 8. Results of the Instrument Reliability Test

Instrument	Number of Items	Cronbach's Alpha	Criterion	Interpretation
Student Time Management Needs Analysis Questionnaire	16	0.806	> 0.70	Reliable

The reliability test yielded a Cronbach's Alpha coefficient of 0.806, which was higher than the threshold value of 0.70. Based on this criterion, the instrument demonstrated good internal consistency and was therefore considered reliable. Accordingly, all 16 items were suitable for collecting data on students' time management needs. In this study, the Cronbach's Alpha coefficient was not interpreted as evidence of measurement stability over time because a test-retest procedure was not conducted.

Practical Test for Teachers and Students

After the media was deemed feasible based on validation by media and material experts, a practicality test was conducted through teacher responses to assess the ease of using the Sand Glass Game Media in classical guidance services. The instrument consisted of 23 items covering five aspects: ease of use, clarity of instructions, suitability of the product for students' objectives and needs, time efficiency, and practicality of implementation in the guidance service. The teacher assessment results are presented in Table 9.

Table 9. Results of the Teacher Practicality Test

No.	Assessment Aspect	Number of Items	Obtained Score	Maximum Score	Percentage	Category
1	Ease of Media Use	4	15	16	93.75%	Highly Practical
2	Clarity of Instructions for Use	4	16	16	100%	Highly Practical
3	Suitability of the Product for Students' Objectives and Needs	5	17	20	85.00%	Highly Practical
4	Time Efficiency of Media Implementation	4	12	16	75.00%	Practical
5	Practicality of Implementation in the Guidance Service	6	24	24	100%	Highly Practical
Total		23	84	92	91.30%	Highly Practical

Based on Table 9, the teacher response yielded an obtained score of 84 out of a maximum score of 92, corresponding to a percentage of 91.30%, which falls into the highly practical category. The aspects of clarity of instructions for use and practicality of implementation in the guidance service obtained the highest percentage, at 100%, followed by ease of media use at 93.75% and suitability of the product for students' objectives and needs at 85.00%. Meanwhile, time efficiency of media implementation obtained the lowest percentage, at 75.00%, although it remained within the practical category. These findings indicate that the media is easy to use, provides clear instructions, and is suitable for supporting the implementation of classical guidance services. The time-efficiency aspect requires further attention to ensure that media use can be appropriately adjusted to the time allocation available for guidance services in schools.

The practicality test was subsequently administered to 22 sixth-grade students from Class VI-A as the direct users of the Sand Glass Game Media. The assessment consisted of 12 items covering student interest, ease of use, clarity of the materials, perceived benefits, user comfort, and student motivation after using the media. The student response results are presented in Table 10.

Table 10. Results of the Student Practicality Test

No.	Assessment Aspect	Number of Items	Obtained Score	Maximum Score	Percentage	Category
1	Student Interest	2	163	176	92.61%	Highly Practical
2	Ease of Use	2	155	176	88.07%	Highly Practical
3	Clarity of Materials	2	153	176	86.93%	Highly Practical
4	Product Benefits	2	154	176	87.50%	Highly Practical
5	Comfort in Using the Product	2	153	176	86.93%	Highly Practical
6	Student Motivation After Using the Product	2	153	176	86.93%	Highly Practical
Total		12	931	1,056	88.16%	Highly Practical

Based on Table 10, the responses of the 22 students to the 12 assessment items yielded an obtained score of 931 out of a maximum score of 1,056, corresponding to a percentage of 88.16%, which falls into the highly practical category. The highest percentage was obtained for student interest, at 92.61%, followed by ease of use at 88.07% and product benefits at 87.50%. Meanwhile, clarity of materials, comfort in using the product, and student motivation each obtained a percentage of 86.93%. All aspects were categorized as highly practical. These findings indicate that the Sand Glass Game Media can be used easily and engagingly by students and can support the implementation of classical guidance services by providing students with a meaningful learning experience related to time management.

Discussion

Research results show that the development of the Sand Glass Game Media is based on the real needs of students in developing time management skills. A needs analysis of 22 sixth-grade students at SDN 101873 Desa Baru showed an overall needs percentage of 66.34%, which falls into the 'needs improvement' category. At the indicator level, the highest need was in goal-setting

skills at 72.73%, followed by schedule-making at 65.91%, priority-setting at 65.63%, and minimizing distractions at 61.08%. These findings show that students' time management issues are multidimensional, as they're not just related to using time effectively, but also include skills like setting goals, planning activities, prioritizing tasks, and controlling various distractions while carrying out activities. Thus, the need for media in this research has a fairly strong empirical basis because it is based on four main components of time management that are directly related to students' learning activities and daily life.

These findings are in line with the concept of self-regulated learning, which sees time management as an important part of students' ability to regulate their learning process. (An, 2021) explains that self-regulation in elementary school students includes the ability to plan, monitor, and control various aspects of learning, including behavior, motivation, effort, and time management. The preparation phase in self-regulation is also related to setting goals and planning activities. Thus, the high need of students in terms of goal setting in this study can be understood as an indication that students' self-regulation skills still need stimulation appropriate to their developmental stage.

The same thing is seen in the study (Javaid, Haleem, Singh, Khan, & Khan, 2023). It shows that elementary school students tend to use cognitive strategies more when completing tasks rather than planning and monitoring their learning process. This finding is important to relate to the results of this study because the two aspects focused on in the Sandglass Game Media, namely setting goals and making schedules, are essentially part of the planning and self-regulation process. Therefore, students' need for time management media doesn't just indicate a lack of knowledge about time, but also points to the need for learning experiences that help students practice planning and controlling their use of time.

From an elementary education perspective, time management skills are also closely related to developing students' discipline. (Fitrianto, 2024) explaining that managing study time can help elementary school students organize their study schedules, set priorities, and increase responsibility for tasks and school rules. This strengthens the results of this study because the indicators used in the needs analysis include goal setting, priority determination, schedule planning, and minimizing distractions. These four aspects ultimately not only support effective use of time but can also become the basis for building disciplined and responsible behavior in learning activities.

The needs identified in this study are also relevant to research results on time management strategies for students. (Morisca, Harfiani, & Daulay, 2025) It explains that important components of time management include assessing time, setting goals, planning, prioritizing, and monitoring. These strategies can help individuals use their time more effectively and make more time for higher-priority activities. Compared to that research, the four indicators used in this study have reflected the main components of time management, especially in terms of goal setting, planning through scheduling, prioritizing, and controlling distractions. Thus, the time management construct used in media development aligns with theoretical studies and previous research.

The need for strengthening time management is also supported by research showing that this skill can be developed through educational interventions. (Yener, Arslan, & Kiliç, 2021), finding an increase in students' time management skills after receiving classroom guidance services. The study used classroom guidance services as an intervention and showed an improvement in time management skill scores from the initial condition to the next cycle. These results support the use of classroom guidance services as an intervention space to develop students' time management skills. Although the subjects of Sholihah et al.'s study were high

school students and the research design was different from this study, the similarity lies in the use of classroom guidance services to provide systematic support for time management skills.

Similar findings are also shown by Pelikan et al. (2021), who developed classical guidance services using the Project-Based Learning model to help improve students' time management. The study shows that time management issues can be addressed through services that give students the chance to actively engage in the learning process. This finding is relevant to the Sand Glass Game Media because the media developed in this study also does not position students as passive recipients of information. Instead, students are encouraged to actively participate in game activities, make choices, manage the available time, and reflect on how they use their time.

One important contribution of this research lies in using games as an approach to make the concept of time management more concrete. Time management is basically a relatively abstract concept for elementary school students. Students might understand that time should be used wisely, but they might not necessarily connect that concept to real-life experiences in prioritizing, scheduling, or reducing distractions. The Sand Glass Game provides a concrete representation that time is limited and keeps moving. The decreasing sand during the game can be used as a visual symbol of time constraints, while the activity of choosing and completing tasks can help students understand the consequences of the decisions they make regarding the time available. This kind of approach aligns well with the principles of active learning, which places direct experience as an important part of building understanding.

The use of games in education also receives strong support from previous research. (Aeon, Faber, & Panaccio, 2021) shows that game design characteristics can affect engagement and the learning process in both cognitive and emotional aspects. They emphasize that game design, challenges, feedback, interaction, and game mechanics are factors that can influence student engagement. This can explain why the Sand Glass Game Media received positive responses from students, especially in terms of interest.

The results of this study are also in line with findings (Wolters & Brady, 2021) finding three main positive themes in the implementation of gamification, namely student engagement and motivation, academic achievement, and social connectivity. Although the Sandglass Game Media is not digital gamification, its basic principles share similarities in using game characteristics to create a more active and engaging learning experience. Therefore, the high level of student interest in the media in this study can be seen as one of the strengths of the product design, even though this interest cannot yet be interpreted as evidence of improved time management skills.

These findings are further supported by studies (Sun, Kangas, & Ruokamo, 2024). It shows that gamification has potential in supporting student engagement, but its success isn't only determined by game elements. Learning design, clear objectives, student characteristics, and the forms of student engagement also need to be considered. This perspective is important for this research because the Sandglass Game Media wasn't developed just as a game, but as a medium integrated with the goals of classical guidance services. Therefore, the game should be seen as a tool to achieve the goal of developing time management skills, not as a learning goal in itself.

A study (Nadeem, Oroszlanyova, & Farag, 2023) also supports the use of game-based learning. Learning through games can boost student engagement, social and cognitive skills, as well as a more positive emotional experience. However, the study also highlights challenges like limited resources, the complexity of implementation, and the risk of shallow learning if the game elements aren't designed in alignment with learning goals. These findings have important implications for this research, especially since the time efficiency aspect of using the media got

the lowest score in teacher assessments, which was 75%, even though it's still considered practical.

Based on expert media validation, the Sandglass Game Media scored 150 out of a maximum score of 168, or 89.29%, which falls into the very valid category. The aspects of media appearance, glasses, plastic cups, sand and mini shovels, time usage sheets, and practicality scored 100%, while several components like buffalo images, time cards, challenge sheets, the guidebook, and the media's function and feasibility scored 75% and were considered valid. These results show that, in general, the media has met the aspects of visual feasibility, component completeness, function, and ease of use.

The level of validity can be understood from how well the media design matches the characteristics of elementary school students. The media doesn't just use text, but combines concrete objects, cards, sand, game activities, and reflection sheets. This combination allows the concept of time management to be conveyed through more than one form of representation. This is important because elementary students are still at a developmental stage where concrete experiences can help connect concepts to everyday life situations. Thus, a high validity value not only indicates that the media can technically be used, but also shows that the components within the media are relevant to the goal of developing time management skills.

In terms of the material, expert validation results obtained a percentage of 85.94%, which falls into the very valid category. The aspect of suitability for students received the highest score of 93.75%, while content and language feasibility each scored 87.50%, and presentation feasibility scored 75%. These results show that the material included in the game is highly relevant to the characteristics and needs of the students. The high score for student suitability is an important finding because guidance media not only needs to have conceptually correct material but must also be able to deliver the material in a way, with language, activities, and presentation forms that students can understand.

The validation results also highlight the importance of integrating both the media and content aspects. Engaging media without appropriate content can make the activity merely recreational, while good content without engaging media may reduce student involvement. Therefore, the Sandglass Game Media combines both components through tangible objects and game activities aimed at time management goals. These findings are in line with the studies (Moreno, Blas, Reina, & Martínez, 2026) which emphasize that game design needs to be linked to learning goals so that the game elements really support the learning process.

Next, the results of the teacher practicality test showed a score of 84 out of a maximum score of 92, or 91.30%, which falls into the very practical category. The clarity of usage instructions and the practicality of implementation in services each scored 100%, while ease of use reached 93.75% and the suitability of the product with the goals and needs of students was 85%. Time efficiency scored 75% and was the lowest aspect, although it is still considered practical. These findings indicate that the media is relatively easy to integrate into classroom guidance services. However, the aspect of time efficiency needs attention in further development because school guidance services have a certain time allocation. Media that is too complex or requires a long time to implement can reduce teachers' flexibility in using it.

The results also show that the quality of a guidance media is not only determined by the validity of its content and appearance, but also by how easy it is to implement. Teachers are important users in the context of classroom guidance services, so clear instructions, easily prepared components, and simple game procedures are important parts of the product's practicality. Research (Karakoç, Eryılmaz, Özpolat, & Yıldırım, 2022) regarding the

implementation of game-based learning, it also shows that learning strategies, teacher characteristics, game design, intervention duration, and the learning context are factors that can affect the success of game implementation in education. Therefore, the 91.30% result on the teacher practicality test is a positive indicator that the product has the potential to be applied, but it still needs improvement, especially in managing the duration.

From the students' perspective, the Sand Glass Game Media scored 931 out of a maximum score of 1,056, or 88.16%, in the very practical category. The interest aspect got the highest percentage at 92.61%, followed by ease of use at 88.07%, product benefits at 87.50%, and clarity of material, comfort, and motivation each at 86.93%. The high level of interest shows that the game is attractive to students and can create a relatively enjoyable experience. These findings are consistent with various studies (Bado, 2022), which show that game characteristics can boost student engagement and motivation when designed according to learning objectives.

Even so, students' practical results need to be interpreted carefully. A score of 88.16% shows that students responded positively to the media, but it doesn't directly prove that the media has improved their time management skills. Interest, comfort, and ease of use are indicators of product acceptance, not indicators of intervention effectiveness. Distinguishing between practicality and effectiveness is important in development research so that result interpretations don't go beyond the empirical evidence obtained. In this study, no experimental design, such as pre-tests and post-tests or a control group, was conducted that would allow researchers to test changes in time management skills as a result of using the media.

Compared to previous research, the position of this study becomes clearer. Several studies have shown that classical guidance services can be used to develop students' time management (Ikhwaniah & Purwoko, 2023; Selgi & Purwoko, 2024; Sholihah, Awalya, & Aisyah, 2024), while other research indicates that game-based learning can increase student engagement and motivation (Masruroh, Asri, & Setijarini, 2025; Nurhidayah, 2026; Wijaya, Asri, & Mariana, 2026). This study combines both approaches in the form of concrete game media specifically designed for classical guidance services in elementary schools. Thus, the contribution of this research is not just using games in learning, but developing a medium that links play experiences with the four components of time management: setting goals, prioritizing, scheduling, and minimizing distractions.

This contribution becomes increasingly relevant because research on time management at the elementary school level is still relatively limited compared to studies in secondary and higher education. Recent research on elementary education in Indonesia shows a relationship between time management and academic achievement, while also highlighting that elementary students' self-regulation skills are still developing. Therefore, developing tools that provide hands-on experience with planning, prioritizing, and using time could be a good way to introduce these skills starting from elementary school.

Overall, the research results show a logical connection between student needs, media design, product validity, and ease of use. A need of 66.34% provides an empirical basis for media development; media expert validation of 89.29% and content expert validation of 85.94% indicate that the product meets feasibility criteria; while teacher practicality of 91.30% and student practicality of 88.16% show that the media can be accepted and used in classroom guidance services.

Thus, the Sand Glass Game Media can be positioned as a valid and practical classical guidance tool to support the introduction and learning of time management skills for elementary school students. This statement is more accurate than claiming that the media has been proven

effective in improving time management, since this study has not tested effectiveness using an experimental design. Instead, the research results provide a strong initial foundation for future studies. Upcoming research could test effectiveness with a pre-test–post-test control group design, involve a larger number of subjects and multiple schools, and measure changes in each time management indicator. In addition, further research can evaluate whether repeated use of the media leads to more lasting behavioral changes, especially in the ability to set goals, prioritize, schedule, and manage distractions. With this direction, the Hourglass Game Media can not only be developed as a valid and practical product, but also has the potential to gain stronger empirical evidence regarding its effectiveness in developing students' time management skills.

CONCLUSION

Based on the research results, the Sand Glass game media was found to be valid and practical to support classroom guidance services in helping students understand time management skills, with an initial need level of 66.34%, media expert validation of 89.29%, content expert validation of 85.94%, teacher practicality of 91.30%, and student practicality of 88.16%. This media implies a concrete, interactive alternative service that matches the characteristics of elementary school students. However, the study was limited to 22 students in one class and has not tested the effectiveness of the media through a pretest-posttest design or control group, so the results cannot yet be used to conclude a causal improvement in time management skills. Future research is recommended to test the effectiveness of the media with a larger sample, involving several schools, measuring each time management indicator more specifically, and conducting long-term evaluations.

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