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Development of Indonesian History Exploration Suitcase to Enhance Fifth- Grade Students Understanding of Cultural Heritage

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ABSTRACT

Cultural heritage learning in elementary schools should not merely emphasize memorizing cultural names but should enable students to connect cultural heritage with its geographical origin, historical context, function, and meaning. This study aimed to develop a feasible Koper Jelajah Sejarah Indonesia learning medium and analyze the improvement in fifth-grade students' understanding of cultural heritage after using the medium. The study employed Research and Development using the ADDIE model involving analysis, design, development, implementation, and evaluation. Twenty-seven fifth-grade students of MI Al Ma'arif Ma'sum Jepon participated in the implementation, while three validators consisting of one lecturer and two teachers assessed the product. Data were collected through observation, teacher interviews, media validation sheets, and a 40-item multiple-choice cultural heritage comprehension test. The validation yielded an average score of 58 out of 75, or 77.33%, and all validators concluded that the medium was feasible for use with revisions. The mean pretest score increased from 77.85 to 88.43 in the posttest. The paired-samples t-test showed a significant difference, $t(26) = 8.67$, $p < .001$, while the normalized gain of 0.48 indicated a moderate improvement. These findings demonstrate an improvement in students' cultural heritage comprehension after using the developed medium.

ABSTRAK

Pembelajaran warisan budaya di sekolah dasar tidak cukup menekankan hafalan nama budaya, tetapi perlu membantu siswa menghubungkan warisan budaya dengan wilayah asal, konteks sejarah, fungsi, dan maknanya. Penelitian ini bertujuan mengembangkan Media Koper Jelajah Sejarah Indonesia yang layak digunakan serta menganalisis peningkatan pemahaman warisan budaya siswa kelas V setelah penggunaan media. Penelitian menggunakan metode Research and Development dengan model ADDIE yang mencakup tahap analysis, design, development, implementation, dan evaluation. Subjek implementasi terdiri atas 27 siswa kelas V MI Al Ma'arif Ma'sum Jepon, sedangkan kelayakan media dinilai oleh tiga validator yang terdiri atas satu dosen dan dua guru. Data dikumpulkan melalui observasi, wawancara guru, lembar validasi media, dan tes pemahaman warisan budaya sebanyak 40 soal pilihan ganda. Hasil validasi memperoleh rata-rata skor 58 dari skor maksimum 75 atau 77,33%, dan seluruh validator menyatakan media layak digunakan dengan perbaikan. Rata-rata nilai pretest meningkat dari 77,85 menjadi 88,43 pada posttest. Uji paired-samples t-test menunjukkan perbedaan signifikan, $t(26) = 8,67$, $p < 0,001$, sedangkan N-Gain sebesar 0,48 menunjukkan peningkatan kategori sedang. Temuan tersebut menunjukkan adanya peningkatan pemahaman warisan budaya siswa setelah penggunaan media yang dikembangkan.

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PENDAHULUAN

Natural and Social Sciences (*Ilmu Pengetahuan Alam dan Sosial* (IPAS) education at the elementary level is not limited to the acquisition of factual knowledge; it is also intended to help students understand the interrelationships among the environment, society, culture, and historical development. The revised textbook *Ilmu Pengetahuan Alam dan Sosial untuk SD/MI Kelas V* addresses these themes, particularly in Chapter 5, "Daerahku yang Bersejarah," which introduces students to historical remains and cultural heritage as part of the development of Indonesian society (Ghaniem et al., 2024). This orientation is also consistent with the implementation of the madrasah curriculum under Minister of Religious Affairs Decree No. 1503 of 2025, which provides guidance for curriculum implementation across madrasah education (Kementerian Agama Republik Indonesia, 2025).

The importance of cultural heritage education becomes even more apparent when considered in relation to Indonesia's extensive cultural diversity. Balai Media Kebudayaan (2026) reported that the number of nationally recognized Indonesian Intangible Cultural Heritage elements increased from 2,213 at the end of 2024 to 2,727 in 2025. At the same time, the 2023 Indonesian Cultural Development Index showed that only 9.15% of the population aged 10 years and above had visited a historical site or World Heritage property during the previous year (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi Republik Indonesia, 2024). These figures highlight the importance of education as a means of bringing younger generations closer to cultural heritage, particularly when direct access to historical sites and cultural resources remains limited.

Understanding cultural heritage should extend beyond memorizing the names of cultural traditions and objects. Through the *Heritage Learning Sequence*, Fontal et al. (2024) position *Knowing* and *Understanding* as the initial stages of heritage learning, followed by *Respecting, Valuing, Caring, Enjoying,* and *Transmitting*. The *Understanding* stage involves developing awareness of the context and significance of a particular heritage element. Erba et al. (2026) further showed that learning experiences that bring students into closer engagement with cultural heritage can support both academic achievement and heritage awareness. Accordingly, understanding of cultural heritage in the present study encompasses not only the ability to recognize cultural heritage but also to classify it, associate it with its region of origin, and understand its historical context, functions, meanings, and preservation practices.

History education at the elementary level may become problematic when learning relies excessively on information transmission and memorization. López-Fernández et al. (2023) emphasized the importance of history instruction that provides students with opportunities to analyze and use information rather than merely receive it. Martínez-Hita et al. (2021) found that a gamified historical-thinking project produced stronger academic outcomes than conventional instruction. Within the context of Islamic elementary schools, Syaifulloh et al. (2025) similarly showed that gamification has the potential to strengthen students' motivation and active engagement when adapted to the characteristics of madrasah learning. In addition, Tapia Espinosa and Arias Ferrer (2021) demonstrated that *object-based learning* enables students to observe, analyze, interpret, and discuss historical information through interaction with objects.

A similar situation was identified in fifth-grade learning at MI Al Ma'arif Ma'sum Jepon. The needs analysis indicated that history and cultural heritage materials were still predominantly

delivered through textbooks and teacher explanations. Some students tended to lose interest and experienced difficulties when required to remember various forms of cultural heritage and associate them with their regions of origin. These difficulties were particularly evident when students had to identify the origins of traditional houses, dances, musical instruments, traditional textiles, and historical remains. This condition suggests that students require not merely additional information but learning experiences that enable them to observe, match, discuss, and actively use cultural information.

This finding is consistent with Rodiyah et al. (2025), who identified a need for more visual and interactive cultural heritage instructional media among fifth-grade students. In their study, 85.72% of students responded positively to the use of media for increasing learning enthusiasm, 71.42% reported that media supported their understanding of the material, and 80% expressed a preference for visual presentation. These findings indicate that the way cultural information is represented plays an important role in supporting students' engagement with and understanding of cultural heritage.

A range of instructional media has been developed to address these learning needs. Masruroh et al. (2024) used a *pop-up book* to support fifth-grade students' understanding of cultural heritage. Puspitasari and Ary (2024) developed the *Cultural Monopoly Game* for intangible cultural heritage learning, while Shofianti and Rachmadyanti (2025) developed a digital snakes-and-ladders game and reported an increase in mean scores from 50 to 84, with an N-Gain of 0.684. Vidianingrum et al. (2025) also reported improved learning outcomes through the use of the *Smart Box Warisan Budaya Jawa Timur*, whereas Setiawati et al. (2025) found that Educaplay promoted students' enthusiasm and supported their understanding of cultural heritage materials.
Innovation in cultural heritage learning has also expanded through digital and visual media. Ismiyanti et al. (2025) developed a digital comic on Indonesian historical heritage for fifth-grade students and reported improvements in cognitive learning outcomes. Maharani et al. (2025) developed a Google Sites-based instructional medium incorporating local wisdom for cultural heritage materials, while Bian and Sun (2026) demonstrated the potential of visual representation in heritage learning among primary school students. Similarly, Asbah et al. (2025) reported improved historical comprehension through the use of interactive digital instructional media.

At the same time, tangible and non-digital instructional media continue to be developed. Andriani (2020) developed *Koper Petualang Besut*, while Saputri et al. (2026) developed *Koper Edukatif* based on traditional games. Harmanto et al. (2024) and Ulhaq et al. (2024) developed *pop-up book* media for fifth-grade history learning. Nugroho (2024) developed the *Djava Dvipa Boardgame*, Putri (2025) designed a board game introducing traditional houses from Indonesia's 38 provinces, Rahmawati et al. (2025) developed an educational game for cultural heritage learning, and Tsania and Prasetyaningtyas (2026) developed the *Board Game Jelajah Budaya Nusantara*. These studies demonstrate that tangible and game-based media remain relevant alongside the growing use of digital technologies in elementary cultural and history education.

International literature reflects similar developments in *game-based heritage education*. Lazarinis et al. (2022) showed that cultural heritage serious games can support collaborative learning. Based on an analysis of 100 heritage-based games, Camuñas-García et al. (2024) found that features such as *task-driven learning*, open exploration, and simulation remain relatively underutilized. Ramos et al. (2026) further demonstrated the potential of heritage games that integrate exploration and problem-solving activities. These findings suggest that the educational

value of game-based heritage media lies not only in the presence of game elements but also in how those elements structure students' exploration and use of cultural information.

Taken together, previous studies have introduced cultural heritage instructional media in the form of *pop-up books*, cultural monopoly games, smart boxes, digital snakes-and-ladders games, digital comics, Google Sites, board games, and suitcase-based media. Accordingly, the novelty of the present study does not lie in the use of a suitcase format, game elements, or cultural content in isolation. Rather, within the body of literature reviewed, the contribution of this study lies in integrating a portable suitcase-based instructional medium, representations of Indonesian regions, manipulable *Tusuk Sejarah* components, *Kartu Sejarah*, concise learning materials, and mission-based activities into a single learning system. This combination was specifically designed to help students connect cultural heritage with its region of origin, historical context, functions, and meanings. Based on this research gap, the present study aimed to develop *Indonesia History Exploration Suitcase* as a suitable instructional medium and examine changes in fifth-grade students' understanding of cultural heritage following its use.

METODE

This study employed a Research and Development (R&D) approach using the ADDIE model, which consists of five stages: *Analysis, Design, Development, Implementation,* and *Evaluation* (Branch, 2009). The study was conducted at MI Al Ma'arif Ma'sum Jepon, an Islamic elementary school (*madrasah ibtidaiyah*), in September 2026. The study population comprised all 27 fifth-grade students enrolled in a single class. Because all members of the population participated in the implementation stage, total sampling was employed. The study also involved three media evaluators, consisting of one university lecturer and two teachers.

During the *Analysis* stage, classroom observations and a teacher interview were conducted to identify the curriculum, learning resources, instructional methods, existing media use, students' learning difficulties, and instructional needs related to cultural heritage. The *Design* stage involved developing the structure of the medium, representations of Indonesian regions, learning materials, *Tusuk Sejarah*, *Kartu Sejarah*, game instructions, and research instruments. During the *Development* stage, the design was transformed into a physical suitcase-based instructional medium constructed primarily from wooden boards, with paper-based instructional components. The completed product was then assessed by three media evaluators and revised in accordance with their ratings and comments.

The *Implementation* stage employed a one-group pretest-posttest design, represented as O1-X-O2, where O1 denotes the pretest, X represents learning activities using *Indonesia History Exploration Suitcase*, and O2 denotes the posttest. The learning activities were conducted over two meetings. Students used the medium in small groups by matching *Tusuk Sejarah* components with the appropriate regions, reading brief information, participating in group discussions, and answering questions on the *Kartu Sejarah*. Students were given 35 minutes to complete each test. The *Evaluation* stage consisted of formative evaluation through product revisions based on evaluator feedback and summative evaluation through an analysis of changes in students' understanding of cultural heritage.

Understanding of cultural heritage was operationally defined as students' ability to: (1) identify cultural heritage; (2) classify tangible and intangible cultural heritage; (3) associate cultural heritage with its region of origin; (4) understand its historical context; (5) understand its functions and meanings; and (6) understand appropriate cultural heritage preservation practices. These

abilities were measured using a 40-item multiple-choice test with four response options for each item. The same test items were administered in both the pretest and posttest.

Data were collected through classroom observation, a teacher interview, a media-evaluation questionnaire, and a test of cultural heritage understanding. The media-evaluation questionnaire consisted of 15 statements rated on a five-point scale and covered three dimensions: visual appearance and design, quality and functionality, and interactivity and safety. Observation data, interview data, and evaluators' comments were analyzed descriptively. Media-evaluation scores were calculated as the percentage of the obtained score relative to the maximum possible score. The final judgment regarding the suitability of the medium was based on the evaluators' stated conclusions.

Pretest and posttest scores were analyzed using descriptive statistics, including the mean, standard deviation, minimum and maximum scores, and score differences. The normality of the paired difference scores was examined using the Shapiro-Wilk test. Because the normality test did not indicate a statistically significant departure from normality, pretest-posttest differences were subsequently analyzed using a paired-samples t-test at a significance level of .05. Learning improvement was additionally examined using the normalized gain, $g = (\bar{X}post - \bar{X}pre)/(100 - \bar{X}pre)$. The N-Gain values were interpreted according to Hake (1998): $g < 0.30$ was classified as low, $0.30 \leq g < 0.70$ as moderate, and $g \geq 0.70$ as high.

HASIL DAN PEMBAHASAN

The needs analysis showed that IPAS learning on cultural heritage still relied largely on textbooks and teacher explanations. Students had limited opportunities to engage consistently with tangible representations of cultural heritage. Some students appeared to lose interest during instruction and experienced difficulties in remembering the names of cultural heritage elements and identifying their regions of origin. These difficulties indicate that the learning challenge was not merely related to the amount of information students were expected to remember but also to their ability to establish connections between cultural information and geographical space.

This finding is consistent with Rodiyah et al. (2025), who reported that fifth-grade students require more visual and interactive media for cultural heritage learning. In the present study, this need was addressed through a tangible instructional medium because the instructional objective extended beyond introducing cultural names to helping students directly associate cultural heritage with its geographical origin. This approach is closely related to the principles of *object-based learning*. Tapia Espinosa and Arias Ferrer (2021) showed that interaction with objects can provide students with opportunities to observe, analyze, and discuss historical information. Thus, a tangible medium was considered particularly relevant for learning content that requires students to connect cultural representations with specific regions.

Based on the needs analysis, *Indonesia History Exploration Suitcase* was developed as a portable, tangible instructional medium. The main structure of the suitcase was constructed from wooden boards, while most of the instructional components were paper-based. The medium contained representations of selected Indonesian regions, *Tusuk Sejarah*, *Kartu Sejarah*, concise learning materials, game instructions, and QR codes providing supplementary materials for teachers. The appearance of the developed product is presented in Figure 1.



Figure 1. The Front Section View of the Indonesian History Exploration Suitcase Learning Media
Source: Research documentation, 2026.

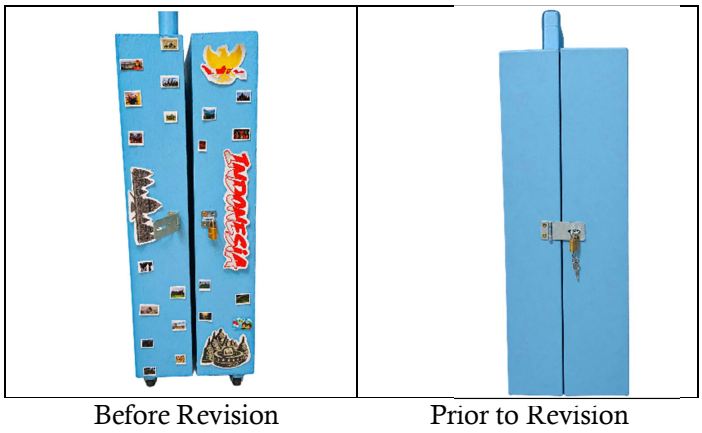


Figure 2. The Side Section View of the Indonesian History Exploration Suitcase Learning Media
Source: Research documentation, 2026.



Figure 3. The Inner Right Section of the Indonesian History Exploration Suitcase Learning Media
Source: Research documentation, 2026.



Before Revision Prior to Revision

Figure 4. The Inner Left Section of the Indonesian History Exploration Suitcase Learning Media
Source: Research documentation, 2026.

The learning activities were organized around mission-based tasks. In the first mission, students matched cultural heritage representations on the *Tusuk Sejarah* components with the appropriate regions. They then completed questions provided on the *Kartu Sejarah*. In this way, students were required to observe cultural representations, make spatial associations, discuss their choices, and apply relevant information rather than simply recall cultural names.

The use of manipulable components served a broader instructional function than simply providing variation in instructional media. Students were required to transform what they knew about cultural heritage into decisions about where particular cultural elements should be located. Putri (2025) similarly demonstrated that game-based media can be used to organize cultural knowledge according to Indonesian provinces. The present medium, however, incorporated multiple forms of cultural heritage and combined cultural-geographical associations with historical context, functions, and meanings. Accordingly, the spatial component of the medium was intended to support students in constructing relationships between cultural objects and their geographical contexts.

The mission-based structure is also relevant to findings reported by Camuñas-García et al. (2024), who found that *task-driven learning* remains relatively underused in heritage-based games. In *Indonesia History Exploration Suitcase*, tasks were not treated as supplementary game elements but as the central mechanism through which students interacted with the learning content. This design is conceptually similar to Ramos et al. (2026), who highlighted the potential of exploration and problem-solving activities in heritage education. Within the madrasah context, the use of game-oriented activities is also consistent with Syaifulloh et al. (2025), who showed that gamification can promote student engagement when adapted to the characteristics of Islamic elementary education.

The developed medium was evaluated by three media evaluators. All three evaluators assigned the same score of 58 out of a maximum of 75, corresponding to 77.33%. The evaluation results for each assessment dimension are presented in Table 1.

Table 1. Evaluation results for Indonesia History Exploration Suitcase

Assessment dimension	Obtained score	Maximum score	Percentage
Visual appearance and design	20	25	80.00%
Quality and functionality	21	30	70.00%
Interactivity and safety	17	20	85.00%
Overall	**58**	**75**	**77.33%**

Source: Research data, 2026.

All three evaluators concluded that the medium was suitable for use in the study following revision. The highest score was obtained for interactivity and safety (85.00%), whereas quality and functionality received the lowest percentage (70.00%). The evaluators also noted that the suitcase design was unique, interactive, and visually appealing for elementary and Islamic elementary school students. Nevertheless, two specific revisions were recommended. First, the contrast between the text and background on the *Kartu Sejarah* needed to be improved to enhance readability during group activities. Second, the supports of the *Tusuk Sejarah* components needed to be reinforced to prevent them from bending during repeated use. Both components were subsequently revised in accordance with these recommendations.

These findings indicate that the suitability of a tangible instructional medium depends not only on its visual attractiveness but also on the readability and physical durability of its components. This consideration is particularly important for media designed to be handled, moved, and repeatedly used by students during group activities. Similar attention to product evaluation prior to classroom implementation can be found in the development studies conducted by Ulhaq et al. (2024), Harmanto et al. (2024), and Rahmawati et al. (2025). However, evaluation percentages across these studies should not be directly compared because the instruments, assessment dimensions, scoring procedures, and criteria differed.

Following product revision, *Indonesia History Exploration Suitcase* was implemented with 27 fifth-grade students. The descriptive results showed an increase in the mean score for understanding of cultural heritage from 77.85 on the pretest to 88.43 on the posttest. The descriptive statistics are presented in Table 2.

Table 2. Descriptive statistics for pretest and posttest scores

Statistic	Pretest	Posttest
N	27	27
Mean	77.85	88.43
Standard deviation	4.02	7.79
Minimum	65.00	70.00
Maximum	82.00	100.00

Source: Research data, 2026.

The mean score increased by 10.57 points, and all 27 students obtained higher posttest scores than pretest scores, with individual gains ranging from 0.5 to 20.5 points. The Shapiro-Wilk test applied to the paired difference scores yielded $W = 0.933$ and $p = .081$. Because the result did not indicate a statistically significant departure from normality, the normality assumption required for the paired-samples *t*-test was considered satisfied. The paired-samples *t*-test subsequently indicated a statistically significant difference between pretest and posttest scores, $t(26) = 8.67$, $p < .001$. The 95% confidence interval for the mean increase ranged from 8.07 to 13.08 points. The class-level normalized gain was 0.48, which falls within the moderate category. The inferential analysis is summarized in Table 3.

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Analysis	**Result**
Mean difference	10.57
Shapiro-Wilk W	0.933
Shapiro-Wilk p	0.081
t	8.67
df	26
p (two-tailed)	< .001
N-Gain	0.48
N-Gain category	Moderate

Source: Research data, 2026.

The observed improvement is consistent with a broader pattern reported in previous studies of cultural heritage instructional media. Shofianti and Rachmadyanti (2025) reported improved scores following the use of a digital snakes-and-ladders game, while Vidianingrum et al. (2025) found improved learning outcomes through a cultural heritage *Smart Box*. Masruroh et al. (2024) similarly reported improved understanding of cultural heritage following the use of a *pop-up book*, whereas Tsania and Prasetyaningtyas (2026) reported improvement through the *Board Game Jelajah Budaya Nusantara*. Comparable patterns were also reported for digital instructional media by Asbah et al. (2025) and Ismiyanti et al. (2025). Taken together, these findings suggest that cultural heritage learning can be supported through a variety of interactive formats, including both tangible and digital media.

The magnitude of the N-Gain in the present study should not be directly compared with values reported in other studies because the studies differ in students' initial ability levels, instructional duration, instructional media, and assessment instruments. The relatively high mean pretest score of 77.85 also left a narrower margin for improvement toward the maximum possible score. Therefore, the N-Gain of 0.48 is more appropriately interpreted alongside the 10.57-point increase in the mean score, the fact that all participants improved, and the statistically significant paired comparison rather than as an isolated indicator of learning improvement.

From a pedagogical perspective, the observed changes in students' scores can be interpreted in relation to the learning activities embedded in the medium. Students did not merely read or listen to information; they were required to recognize cultural heritage, examine regional representations, select appropriate locations, match objects, participate in discussions, and answer questions. These activities are consistent with the *Heritage Learning Sequence* proposed by Fontal et

al. (2024). Recognizing a heritage element reflects the *Knowing* stage, whereas associating it with its geographical origin, historical context, functions, and meanings represents movement toward the *Understanding* stage. In this sense, the instructional medium was designed to support a progression from simple recognition toward a more contextualized understanding of cultural heritage.

The manipulable features of the medium are also relevant to the principles of *object-based learning*. Tapia Espinosa and Arias Ferrer (2021) showed that working with objects can encourage observation, analysis, interpretation, and interaction among students. In the present study, the *Tusuk Sejarah* components were not authentic cultural artifacts; rather, they functioned as tangible representations that required students to connect cultural knowledge with spatial decisions. Their instructional value therefore lay not in authenticity as heritage objects but in the opportunity they provided for students to actively organize and apply cultural information.

Game elements also served as a structure for learning activities rather than merely as a source of entertainment. Puspitasari and Ary (2024) reported improved learning outcomes through the *Cultural Monopoly Game*, while Setiawati et al. (2025) found that Educaplay supported students' enthusiasm and understanding of cultural heritage materials. Lazarinis et al. (2022) further demonstrated that cultural heritage games can facilitate interaction and collaborative learning. In *Indonesia History Exploration Suitcase*, mission-based tasks required students to use information to complete specific learning activities. Thus, the game-based elements were integrated into the instructional process by encouraging students to make choices, discuss information, and complete culturally focused tasks.

The findings also suggest that interactive learning experiences do not necessarily have to depend on student-operated digital devices. Previous studies by Ismiyanti et al. (2025), Maharani et al. (2025), Bian and Sun (2026), and Asbah et al. (2025) have demonstrated the potential of digital and visual media in supporting cultural and historical learning. The present study, however, used a predominantly tangible instructional medium. Digital elements were limited to QR codes that provided supplementary materials for teachers, while students' primary learning experiences involved direct interaction with the suitcase and its instructional components. This design illustrates how tangible and digital elements can be positioned differently within the same learning environment, with physical interaction remaining central to students' classroom activities.

The findings should nevertheless be interpreted in light of several limitations. First, the use of a one-group pretest-posttest design without a control group does not allow the increase in scores to be causally attributed solely to the instructional medium. Second, the same test items were administered in both the pretest and posttest, meaning that a repeated-testing effect cannot be completely ruled out. Third, the study involved only one class of 27 students and was implemented over a relatively short period. Future research could address these limitations by including a comparison group, employing equivalent parallel forms of the assessment, extending the duration of implementation, and involving a broader range of participants. Further studies could also examine additional dimensions of the *Heritage Learning Sequence*, particularly *Valuing* and *Caring*, which were beyond the primary scope of the present study.

CONCLUSION

This study developed *Indonesia History Exploration Suitcase* as a portable, tangible instructional medium that integrates regional representations, *Tusuk Sejarah*, *Kartu Sejarah*, concise learning materials, QR codes providing supplementary materials for teachers, and mission-based activities for fifth-grade cultural heritage learning. The assessment conducted by three media evaluators indicated that the medium was suitable for use following revision, particularly regarding the readability of the *Kartu Sejarah* and the physical durability of the *Tusuk Sejarah*. Following classroom implementation, students' understanding of cultural heritage improved significantly, with the normalized gain falling within the moderate category. These findings suggest that combining regional representations, manipulable components, and mission-based game activities can provide an interactive approach to cultural heritage learning. However, because the study employed a single-group design without a control group, future research should examine the medium using comparative research designs, broader participant samples, and longer implementation periods.

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