

## INTERACTIVE LEARNING MEDIA IN SOCIAL STUDIES: STUDENT ATTENTION, INTEREST, AND ENGAGEMENT AT SMPN 8 HALMAHERA TENGAH

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### ABSTRACT

Social Studies (IPS) is often delivered through lectures and textbooks, and little is known about how interactive media is used in schools with limited technological facilities. This qualitative descriptive study analyzed the use of interactive learning media in IPS instruction and explored students' attention, interest, and engagement at SMPN 8 Halmahera Tengah, North Maluku, Indonesia. Data were collected from June to August 2026 through eight classroom observations in two Grade VIII classes, interviews with 14 participants (one principal, one vice principal, four IPS teachers, and eight students), and document analysis. Participants were selected purposively, and the data were analyzed using the interactive model of Miles et al. with the four-phase model of interest development as the analytical lens. Teachers mainly used low-bandwidth, offline interactive media, such as interactive PowerPoint presentations with embedded videos and clickable maps, supplemented by WhatsApp-based quizzes. During these lessons, students' attention shifted toward the screen, and questioning, discussion, and task participation were observed more often. Unstable internet and three projectors shared among 12 classrooms constrained implementation, and teachers adapted through pre-downloaded materials and equipment scheduling. Informants described local content, such as Coka Iba traditions and coastal fisheries, as relatable and meaningful. Evidence was strongest for triggered and maintained situational interest and limited for later phases. Offline interactive media combined with local content may support situational interest in resource-limited IPS classrooms.

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### INTRODUCTION

Social Studies (*Ilmu Pengetahuan Sosial*, IPS) in Indonesian junior high schools integrates history, geography, economics, and sociology to help students understand social life and develop critical thinking, social awareness, and civic responsibility (Handayani & Apdasuli, 2025). The national curriculum positions IPS as a subject that connects learners with their social and natural environment (Rafelya Diningtias et al., 2024). For this purpose, IPS learning needs to be relevant to students' lives and to involve them actively (Widodo et al., 2025).

However, previous studies report that IPS is often perceived as content-heavy and memorization-oriented, and is frequently delivered through lectures and textbooks (Arini & Sudatha, 2022). Such conditions have been associated with students' boredom, passivity, and lower enthusiasm in IPS classes (Mbudja et al., 2019). At SMP Negeri 8 Halmahera Tengah, preliminary observations in two Grade VIII classes in June 2026 showed that the teacher predominantly relied on conventional lectures and textbook readings rather than interactive digital tools. During the 80-minute sessions, only 6 out of 32 students were observed actively paying attention and taking notes, while the majority exhibited passive behaviors such as daydreaming, whispering, or using their smartphones for non-academic purposes.

Learning interest is understood as a student's tendency to be drawn to, and to stay involved in, learning activities. In this study, interest is examined through four indicators: feelings of enjoyment, attention, attraction to the material, and involvement in learning activities (Adillah et al., 2026; Hidi & Renninger, 2026). Interest develops through situational triggers in the learning environment that may later be sustained and become more stable (Siklander et al., 2017). Therefore, the way media is used in the classroom is relevant to how students' interest is triggered and maintained.

Interactive learning media refers to tools that allow two-way interaction among students, teachers, and learning content, such as instructional videos, animations, interactive presentations, digital quizzes, interactive maps, and educational games (Adawiyah et al., 2024; Untajana et al., 2025). By combining text, images, sound, and motion, such media can present abstract social concepts in more concrete forms.

Several studies have examined interactive media in IPS and other subjects. (Salsabila et al., 2022) investigated interactive multimedia Articulate Storyline 3 in 7th-grade Social Studies (IPS) at SMP Negeri 1 Teluknaga using a quasi-experimental design and reported that it was associated with a significant improvement in students' Social Studies learning outcomes compared to PowerPoint media. (Fairuzzabad et al., 2025) studied interactive animation-based video media in elementary social studies instruction and found that it effectively visualizes abstract concepts, enhances student engagement, and boosts learning motivation. Studies on game-based quizzes such as Kahoot! (Lashari et al., 2024) described that integrating interactive digital quizzes significantly enhanced students' intrinsic motivation, active engagement, and classroom participation compared to traditional paper-based assessments. However, most of these studies relied on quantitative or developmental designs, and thus provide limited insight into how teachers actually use such media in daily classroom practice and how students respond.

Interactive media use depends on school conditions such as devices, electricity, and internet access, which vary across regions in Indonesia (Meriyanti & Jasmina, 2022). Meanwhile, learning that integrates local culture and environment has been reported to make IPS content more meaningful for students (Fitriyah et al., 2026). Central Halmahera, in North Maluku, is characterized by a diverse archipelagic geography, featuring coastal areas, hilly terrains, and tropical rainforests. The local economy is traditionally anchored in agriculture and fisheries, though recent developments include large-scale nickel mining industries. Culturally, the region is home to diverse indigenous communities who maintain strong customary (*adat*) traditions, providing a rich context for integrating local wisdom into Social Studies (IPS) learning. SMP Negeri 8 Halmahera Tengah, as a typical regional school, has 12 classrooms equipped with basic furniture, but technological facilities remain limited. The school owns only 3 LCD projectors and a small set of shared laptops. Although the school has an internet connection, the signal is often unstable, leading teachers and students to rely heavily on their personal mobile data. Currently, there are 4 Social Studies (IPS) teachers handling approximately 240 students across grades VII to IX.

Previous research has shown that interactive media is associated with improved student interest, motivation, and engagement in IPS and related subjects (Fairuzzabad et al., 2025; Lashari et al., 2024; Salsabila et al., 2022). However, these studies were predominantly conducted using quantitative or developmental designs and did not examine how teachers cope with limited technological infrastructure. Qualitative evidence on how interactive media is actually used in daily IPS classroom practice and how students respond to it in schools with limited technological facilities and remote regional settings

remains scarce, particularly in Halmahera Tengah, North Maluku (Meriyanti & Jasmina, 2022). In addition, little attention has been paid to how the rich local context of regions such as Central Halmahera, including its indigenous cultural traditions, archipelagic environment, and local economic activities, has been integrated into interactive IPS media.

This study contributes in three ways. First, it provides a detailed qualitative account of actual interactive media practices and student responses in IPS classrooms, rather than testing effects on learning outcomes through experimental designs. Second, it examines these practices in a school with limited technological facilities, specifically only three shared LCD projectors, a small set of laptops, and unstable internet connectivity, thereby revealing how IPS teachers adapt to the constraints of a regional setting with limited resources. Third, it documents the extent to which the local context of Halmahera Tengah, including its indigenous adat traditions, natural environment, and local economic activities, is currently integrated, or not yet integrated, into IPS learning media and classroom activities. Theoretically, the study extends understanding of how interactive media relates to student attention, interest, and engagement in contexts with limited resources, complementing existing frameworks of interest development (Hidi & Renninger, 2026). Practically, it offers IPS teachers and school leaders considerations grounded in evidence for selecting appropriate media, planning technological support, and incorporating local wisdom into Social Studies instruction in similar regional settings across eastern Indonesia.

This study uses the four-phase model of interest development (Hidi & Renninger, 2026) as its main analytical lens. The model conceptualizes interest as a psychological state that develops through four phases: triggered situational interest, maintained situational interest, emerging individual interest, and fully developed individual interest. In the context of this study, the framework is applied to trace how interactive media acts as a situational trigger that initiates and sustains students' attention and engagement in IPS classrooms. Specifically, the use of interactive media (what is used) is analyzed as the mechanism that engages students' learning processes, which in turn manifests through observable indicators of attention, interest in the material, and active engagement. The themes generated in the Findings, such as forms of media use, student attention and responses, interest in IPS material, engagement levels, constraints, and the integration of local context, will be interpreted through this developmental chain to understand how situational triggers in a setting with limited resources can foster learning interest. While the cognitive theory of multimedia learning (Mayer, 2021) may be briefly referenced in the discussion to explain the cognitive processing of multimedia elements, Hidi and Renninger's model remains the primary and consistent lens for evaluating student interest and engagement throughout this study.

This study aims to analyze the use of interactive learning media in Social Studies instruction and to explore students' responses, attention, interest, and engagement at SMP Negeri 8 Halmahera Tengah. Specifically, it addresses four questions: (1) What forms of interactive learning media are used in IPS instruction? (2) How do students respond to the media in terms of attention, interest in the material, and engagement? (3) What obstacles affect the implementation of interactive media? (4) How is local context integrated into the media and learning activities?

## METHOD

This study employed a qualitative descriptive design (Sandelowski, 2000). This design was chosen because the study aims to describe, in depth and in the participants' own terms, how interactive learning media is used in Social Studies (IPS) classrooms and how students respond to it in a real school setting, rather than to test causal effects on learning outcomes (Creswell & Creswell, 2018). (Hidi & Renninger, 2026) four-phase model of interest development served as the analytical lens that guided the observation and interview guides and the interpretation of findings.

The study was conducted at SMP Negeri 8 Halmahera Tengah, North Maluku, Indonesia, from June to August 2026. The school was selected because it represents a typical regional school with limited technological facilities. It has 12 classrooms, but only 3 LCD projectors and a small set of shared laptops. Its internet connection is available but unstable, so teachers and students often rely on personal mobile data. At the time of the study, four IPS teachers taught approximately 240 students across Grades VII to IX. A preliminary observation was carried out in June 2026 to obtain an initial picture of classroom conditions.

Participants were selected using purposive sampling (Palinkas et al., 2015) based on their direct involvement in IPS teaching and learning and the school's technology and curriculum management. Selection criteria were: (a) IPS teachers who were teaching in the semester of data collection; (b) students from Grade VIII (specifically classes VIII-A and VIII-B) who

attended the observed lessons and were willing to participate; (c) school leaders responsible for curriculum and facilities. Because the school has only four IPS teachers, all four were included to capture the full range of instructional practices and perspectives. Student participants were selected with the teachers' help to represent varying levels of participation observed in class, specifically categorized as active, moderately active, and passive learners. In total, 14 participants took part (Table 1).

**Table 1.** Research Participants

| Code       | Role                          | Number   | Purpose                                         |
|------------|-------------------------------|----------|-------------------------------------------------|
| P          | Principal                     | 1        | Policy, facilities, and support for media use   |
| VP         | Vice principal for curriculum | 1        | Curriculum and learning planning                |
| T-1 to T-4 | IPS teachers                  | 4 (of 4) | Media practices, student responses, constraints |
| S-1 to S-8 | Students, Grade VIII          | 8        | Experience, interest, and engagement            |

Source: Researcher's Data (2026)

The study was carried out in three stages.

1. Stage 1: Preliminary observation (June 2026). The researcher observed two Grade VIII classes during 80-minute sessions to describe initial conditions of IPS teaching, student attention, and media use. This stage informed the focus of the study and the development of the instruments.
2. Stage 2: Main data collection (July 2026). The researcher observed lessons in which teachers used interactive media in their routine practice, adapting to the school's limited technological facilities. Semi-structured interviews and document collection were carried out during and after the observations.
3. Stage 3: Analysis and verification (August 2026). Data were transcribed, coded, and analyzed, and the interpretations were checked through member checking and peer debriefing.

Data were collected through observation, interviews, and documentation (Table 2).

**Table 2.** Alignment of Research Questions, Data Sources, and Focus

| Research Question                                        | Data Sources                                                                     | Focus / Indicators                                                                                                                                                                            |
|----------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RQ1. Forms of interactive media used                     | Observation, teacher interviews, lesson plans ( <i>modul ajar</i> ), media files | Type of media, topic, frequency, teacher's role, devices and connectivity used                                                                                                                |
| RQ2. Student responses (attention, interest, engagement) | Observation, student and teacher interviews                                      | Enjoyment, attention, attraction to the material, involvement (asking/answering, group work, task completion); signs of triggered or maintained situational interest (Hidi & Renninger, 2026) |
| RQ3. Implementation obstacles                            | Interviews (teachers, VP, P), observation, facility records                      | Devices, internet, electricity, teacher skills, time, school support                                                                                                                          |
| RQ4. Integration of local context                        | Lesson plans, observation, interviews                                            | Local examples (adat traditions, geography, fisheries/agriculture/mining), local content in the media                                                                                         |

Source: Researcher's Data (2026)

#### 1. Observation

The researcher conducted 8 observations in two Grade VIII classes (VIII-A and VIII-B), each lasting 80 minutes (the school's lesson duration). A structured observation guide recorded the type of media, student attention (e.g., looking at the screen, taking notes), responses, and engagement activities, supported by narrative field notes written immediately after each lesson. The researcher acted as a non-participant observer.

#### 2. Interviews

Semi-structured interviews were conducted with the principal, vice principal, four IPS teachers, and eight students. Interview guides were organized around the four research questions. Interviews lasted approximately 30 to 45 minutes for

teachers and school leaders, and 15 to 20 minutes for students, were audio-recorded with consent, and were transcribed verbatim. Student interviews were conducted in small groups of two to three to help students feel comfortable and encourage more open discussion.

### 3. Documentation

The documents analyzed were lesson plans (*modul ajar*), media files used in class, school facility records, and photographs of learning activities. Photographs were used only as supporting documentation and were not treated as evidence of interest or effectiveness.

Data were analyzed using the interactive model of (Miles et al., 2014): (1) data condensation, in which transcripts and field notes were coded and data irrelevant to the research questions were set aside; (2) data display, in which coded data were organized into themes and narrative matrices; and (3) conclusion drawing and verification. Themes were developed using the indicators of the framework, combined with inductive coding for emerging themes such as local context integration and specific technological constraints (Braun & Clarke, 2006; Miles et al., 2014) Coding was done manually using Microsoft Excel to organize the codes, categories, and matrices systematically.

Trustworthiness followed the criteria of credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). Credibility was strengthened through source triangulation (principal, teachers, students), technique triangulation (observation, interviews, documentation), member checking with 4 teacher informants and 8 student informants, and peer debriefing with the co-authors and academic supervisors. Transferability was supported by thick description of the school context, local cultural elements of Halmahera Tengah, and participant profiles. Dependability was maintained through an audit trail of field notes, audio recordings, transcripts, and coding records. Confirmability was supported by direct quotations in the findings, observation notes, documents, and supervisor review of the analysis process.

The study obtained a research permit from the Faculty of Teacher Training and Education, Khairun University, and the Central Halmahera Education Office. All participants were informed about the aim, procedures, and their rights, and gave written informed consent. For student participants, consent was obtained from the school principal and parents/guardians, and students gave verbal assent. Participation was voluntary, and participants could withdraw at any time without penalty. Identities were anonymized using codes (P, VP, T-1 to T-4, S-1 to S-8). Recordings, transcripts, and photographs were stored securely on a password-protected device and used only for research purposes, and photographs of students were taken with permission.

## RESULT AND DISCUSSION

This section presents the findings from 8 classroom observations in Classes VIII-A and VIII-B, interviews with 14 participants (one principal, one vice principal, four IPS teachers, and eight students), and lesson plans, media files, facility records, and photographs. The findings are organized into six themes that correspond to the four research questions (Table 3). Each theme presents the evidence, interprets it through the four-phase model of interest development (Hidi & Renninger, 2026), and compares it with previous studies. Participants are identified by codes (P, VP, T-1 to T-4, S-1 to S-8), and observation excerpts are referenced by class and date. Interview excerpts were originally in Indonesian and were translated by the authors.

**Table 3.** Summary of Themes, Key Findings, and Theoretical Links

| Theme                           | RQ  | Sources                                                    | Key Finding                                                                                                                                                                                                                 | Link to Theory                 |
|---------------------------------|-----|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Forms of interactive media use  | RQ1 | Observation, T interviews, <i>modul ajar</i> , media files | Teachers primarily utilized low-bandwidth interactive media, such as offline interactive PowerPoint presentations with embedded short videos and WhatsApp-based digital quizzes, adapting to limited internet connectivity. | Context of the trigger         |
| Student attention and responses | RQ2 | Observation, S and T interviews                            | Visual animations and interactive quiz prompts appeared to draw students' initial attention, shifting their focus                                                                                                           | Triggered situational interest |

| Theme                      | RQ  | Sources                                                  | Key Finding                                                                                                                                                                                                                                                                                    | Link to Theory                                  |
|----------------------------|-----|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Interest in IPS material   | RQ2 | S and T interviews, observation                          | from passive listening to active screen-watching and immediate verbal reactions.<br>Students reported interest during lessons and perceived the material as more meaningful when interactive media connected abstract IPS concepts to familiar, everyday scenarios in their local environment. | Maintained situational interest                 |
| Student engagement         | RQ2 | Observation, S interviews, documents                     | Behavioral engagement was observed more frequently during media use, evidenced by a higher frequency of voluntary questioning, active participation in digital quizzes, and collaborative peer discussions.                                                                                    | Behavioral indicator of interest during lessons |
| Implementation constraints | RQ3 | Interviews (T, VP, P), facility records, observation     | Unstable internet connections and limited shared projectors frequently interrupted the flow of interactive media, causing technical delays that occasionally disrupted the maintenance of students' situational interest.                                                                      | Conditions limiting triggers                    |
| Local context              | RQ4 | <i>Modul ajar</i> , media files, interviews, observation | Integrating local wisdom, such as <i>Coka Iba</i> traditions and local economic activities like coastal fisheries, into the media made informants described the IPS content as highly relatable and connected to their daily lives and value for the subject matter.                           | Personal relevance and value                    |

Source: Researcher's Processed Data (2026)

### Forms of Interactive Media Use and Teacher Adaptation

The findings revealed that IPS teachers at SMPN 8 Halmahera Tengah primarily utilized low-bandwidth, offline interactive media to adapt to the school's limited technological infrastructure. The most common form of media was interactive PowerPoint presentations embedded with short instructional videos, clickable maps, and hyperlinked images. Additionally, teachers utilized WhatsApp-based digital quizzes and assignments. Because the school's internet connection was frequently unstable and only three LCD projectors were shared among 12 classrooms, teachers could not rely on real-time online platforms like Kahoot! or Quizizz during class hours.

Instead, teachers adapted by pre-downloading materials and using students' or teachers' personal mobile data only for asynchronous tasks. As T-1 explained,

*"I cannot use online quizzes in class because the signal often drops in the middle of the lesson, which wastes time. So, I embed the videos directly into the PowerPoint and use WhatsApp to send the quiz questions after class."*

(Teacher 1 Interview, July 2026)

Similarly, T-3 noted that the limitation of projectors required careful scheduling:

*"We have to book the projector a day in advance. If it's unavailable, I use a portable Bluetooth speaker to play audio stories or podcasts related to the IPS material."*

(Teacher 3 Interview, July 2026)

These adaptations demonstrate that in resource-limited settings, interactive media use may depend on teacher ingenuity and offline digital tools rather than high-end technological infrastructure. Figure 1 illustrates the teacher coordination meeting where instructional strategies and resource sharing were discussed.



**Figure 1.** Discussion with Teachers at SMP Negeri 8 Central Halmahera  
Source: Researcher Documentation (2026)

### Student Attention and Triggered Situational Interest

Observation data indicated that the use of interactive media appeared to act as an environmental trigger, shifting students' attention from passive listening to active observation. During conventional lectures, field notes recorded that approximately 80% of students exhibited passive behaviors such as daydreaming or whispering (Preliminary Observation, June 2026). However, when teachers displayed interactive PowerPoint slides containing animations or embedded videos of local economic activities, student attention immediately focused on the screen. Figure 2 illustrates a learning activity during the use of interactive media.



**Figure 2.** Learning activities at SMP Negeri 8, Central Halmahera Regency  
Source: Researcher Documentation (2026)

This shift aligns with the first phase of (Hidi & Renninger, 2026) model: triggered situational interest. Students reported that the visual and auditory stimuli made the class environment feel different and more stimulating. S-3 stated, *"Usually, I feel sleepy when the teacher just reads the textbook. But when there is a video about the nickel mining in Weda on the screen, I automatically look at it and forget to play with my phone."*

*(Student 3 Interview, July 2026)*

S-6 also mentioned,

*"The clickable maps make me curious. I want to know what happens if I click the picture of the traditional market."*  
(Student 6 Interview, July 2026)

These responses suggest that interactive media, even in its offline form and sparks curiosity.

### **Maintained Interest and Behavioral Engagement**

Beyond capturing initial attention, the interactive media facilitated *maintained situational interest*, which was evidenced by increased behavioral engagement. When the media presented abstract IPS concepts (such as economic interactions or geographical features) in concrete, visual forms, students became more involved in the learning process. Observation records showed more frequent voluntary questioning, active participation in group discussions, and task completion.

For instance, during a lesson on local economic activities, T-2 used an interactive presentation showing the supply chain of coastal fisheries. Students were observed pointing at the screen, discussing the images with their peers, and asking critical questions about the fishermen's income. T-2 noted,

*"When I show the interactive slides about our local fisheries, they don't just sit quietly. They argue about the prices and ask how the government can help the fishermen. They are truly engaged."*

(Teacher 2 Interview, July 2026)

This behavioral engagement suggests that the media did more than draw attention: the lesson on local fisheries was observed alongside continued participation, and T-2 described students as engaged, in contrast to the passive behaviors observed during textbook-based instruction.

### **Implementation Constraints**

Implementation constraints centered on connectivity and shared equipment. Facility records showed that only three LCD projectors were shared among 12 classrooms, supported by a small set of shared laptops. Observations noted 3 occasions on which projector unavailability and intermittent signal loss interrupted a lesson (Obs. VIII-A-B-C, July 2026). VP stated that:

*"We only have three functional projectors for twelve classes, so teachers must schedule them days in advance. When the internet drops, which happens frequently, real-time online quizzes are impossible, forcing teachers to pivot to offline materials"*

(VP Interview, July 2026)

As described above, teachers responded by pre-downloading materials, booking the projector a day in advance, and using audio-based alternatives. In 3 of the observed lessons, such delays coincided with a visible decline in students' attention: within five minutes of the technical disruption, field notes recorded that approximately 80% of students in the affected class reverted to passive behaviors, such as chatting with peers or looking out the window, which appeared to interrupt the situational interest triggered earlier in the lesson (Preliminary Observation, June 2026).

### **Integration of Local Context in IPS Media**

A unique and critical finding in this study was the deliberate integration of the local context of Central Halmahera into the interactive media. Teachers intentionally embedded photographs, videos, and case studies related to local *adat* traditions (such as the *Coka Iba* ritual), local geography (Weda Bay), and regional economic activities (agriculture and nickel mining) into their presentations.

This integration appeared to support personal relevance, which Hidi and Renninger (2026) identify as a key component in the transition from situational to individual interest. S-5 expressed,

*"I never realized that the geography we learn is exactly what is in my village. When the teacher showed the picture of the clove farming in Patani, I felt proud and understood the material better because it is my daily life."*

(Student 5 Interview, July 2026)

T-4 also emphasized the importance of this approach: *"Students relate better when the media shows their own environment. If I teach about social interaction using pictures of the Coka Iba tradition, they immediately understand the values of gotong royong (mutual cooperation)."*

*(Teacher 4 Interview, July 2026)*

## Discussion

Viewed through the lens of Hidi and Renninger's four-phase model of interest development, this study suggests how interactive media may function as an environmental trigger in resource-limited settings. Teachers at SMPN 8 Halmahera Tengah appeared to trigger and maintain situational interest, not through high-end applications, but through offline interactive PowerPoints and localized digital content.

Furthermore, the findings help address a gap in the literature regarding the integration of local context into interactive media (Fitriyah et al., 2026). The incorporation of Halmahera Tengah's cultural and geographical elements appeared to provide students with personal relevance and value. According to (Hidi & Renninger, 2026), when learners find personal value in the material, their situational interest is more likely to develop into emerging individual interest. The constraints of limited internet and shared projectors (see Implementation Constraints) did act as barriers that occasionally disrupted the flow of learning, requiring teachers to be highly adaptive. However, the local content may have helped sustain students' interest despite these constraints.

The attention observed when animations, embedded videos, and clickable maps were displayed is consistent with the idea that salient features of the learning environment can trigger interest (Hidi & Renninger, 2026; Siklander et al., 2017). The combination of images, sound, and motion may also help explain why these stimuli drew students' focus (Mayer, 2021). However, attention alone does not necessarily lead to ongoing involvement. Adillah et al. (2026) described a divergence between attention and engagement among rural Indonesian students, suggesting that triggers need to be followed by activities that invite participation. In the present study, such activities included questioning, group discussion, and quiz tasks (Adillah et al., 2026).

The questioning, discussion, and task completion observed during the lesson on local fisheries resemble the active engagement reported in studies of interactive video and game-based quizzes (Fairuzzabad et al., 2025; Lashari et al., 2024). Those studies, however, were conducted in elementary classes and with engineering learners, respectively, and Salsabila et al. (2022) examined learning outcomes using a quasi-experimental design. The present findings are therefore not directly comparable, but they offer a complementary, practice-based account of how engagement appeared in a regular junior high school IPS class (Salsabila et al., 2022).

The constraints reported by teachers reflect the uneven ICT access across Indonesian districts (Meriyanti & Jasmina, 2022). Untajana et al. (2025) likewise examined interactive media in a junior high school in Maluku, although their focus was on science learning outcomes rather than on classroom practice under connectivity constraints (Untajana et al., 2025). Teachers' use of offline files and scheduled projector use shows that interactive media can still be used with limited connectivity. Within the four-phase model, however, interruptions may limit how consistently situational interest is supported.

The use of local content is consistent with arguments that culturally grounded IPS learning can make material more meaningful (Arini & Sudatha, 2022; Fitriyah et al., 2026). Those studies focused on developing and validating teaching materials, whereas the present study documents how teachers integrated local content in actual classroom practice through interactive media. Students' references to their own villages and daily lives (S-5) suggest personal relevance, which Hidi and Renninger (2026) associate with the development of individual interest. Because the evidence comes from a single data-collection period, this is treated as an early sign rather than a confirmed transition.

## Synthesis: Interest Development in a Resource-Limited IPS Classroom

Table 4 maps the evidence from the six themes onto the four-phase model of interest development:

**Table 4.** Evidence Mapped to the Four-Phase Model

| Phase                              | Evidence in this study                                                                                                                                              | Supporting conditions                                                                                                                      | Limiting conditions                                                                                                       |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Triggered situational interest     | Animations, embedded videos, and clickable maps were followed by students' attention shifting toward the screen and by immediate reactions (field notes; S-3, S-6). | Visual and auditory stimuli; content about familiar local activities (e.g., nickel mining in Weda); offline materials prepared in advance. | Technical delays and projector unavailability; distractions such as phone use noted in preliminary observation.           |
| Maintained situational interest    | Voluntary questioning, group discussion, and task completion during lessons using interactive media (observation records; T-2 on the fisheries lesson).             | Concrete visual representation of abstract concepts; locally relevant cases; teacher prompts that invited discussion.                      | Unstable internet; three projectors shared among 12 classrooms; interrupted lesson flow (see Implementation Constraints). |
| Emerging individual interest       | Limited evidence: S-5 expressed pride and a personal connection to the material, but this comes from a single account.                                              | Personal relevance and value of local content (Coka Iba, clove farming in Patani, coastal fisheries).                                      | Short observation period; no follow-up beyond the data-collection period.                                                 |
| Well-developed individual interest | Not examined.                                                                                                                                                       | —                                                                                                                                          | Would require longitudinal data.                                                                                          |

Source: Researcher's Processed Data (2026)

Overall, the findings suggest that teachers at SMPN 8 Halmahera Tengah mainly used low-bandwidth, offline interactive media, such as interactive PowerPoint presentations with embedded videos, clickable maps, and hyperlinked images, supplemented by WhatsApp-based quizzes outside class (RQ1). During lessons that used this media, observations and interviews indicated that students' attention shifted toward the screen, and that questioning, discussion, and task participation were observed more often, while students described curiosity and a sense that the material was relevant to their lives (RQ2). Implementation was constrained by unstable internet, limited shared projectors, and the need to schedule equipment, to which teachers adapted through pre-downloaded materials and audio alternatives (RQ3). Local elements such as *Coka Iba*, Weda Bay, clove farming, and coastal fisheries were embedded in the media, and informants described them as relatable and connected to students' daily experiences (RQ4). Evidence is strongest for triggered and maintained situational interest and limited for later phases, which would require longer observation across more lessons and over time.

### Implications and Limitations

IPS teachers can combine offline interactive presentations with prompts that invite students to ask, discuss, and respond, so that attention is followed by participation. Embedding examples from students' own environment may further support personal relevance. Schools with limited infrastructure may benefit from a shared schedule for projectors, a repository of pre-downloaded videos and slides, and basic training in designing offline interactive media. Teachers and school leaders could collaboratively develop a bank of media that draws on *adat* traditions, local geography, and economic activities such as fisheries, agriculture, and mining, possibly with input from community members.

This study involved one school, 14 participants, and a single main data-collection period (July 2026), and relied on observations of 8 lessons; findings are therefore not intended for statistical generalization. Because teachers knew they were being observed, lessons may have been prepared differently from usual practice, and students were selected with teachers' help, which may have shaped the range of views obtained. Students' interest was inferred from observed behavior and self-report, without repeated measures over time. Future research could follow students over a longer period, include several schools with different levels of infrastructure, or co-design and examine local-content media with teachers.

## CONCLUSION

This study examined how interactive learning media was used in IPS instruction at SMPN 8 Halmahera Tengah and how students responded in terms of attention, interest, and engagement. Teachers mainly used low-bandwidth, offline interactive media, including interactive PowerPoint presentations with embedded videos, clickable maps, and hyperlinked images, supplemented by WhatsApp-based quizzes outside class (RQ1). During lessons using this media, students' attention shifted toward the screen, questioning, discussion, and task participation were observed more often, and students described curiosity and relevance (RQ2). Unstable internet, limited shared projectors, and equipment scheduling constrained implementation, and teachers adapted through pre-downloaded materials and audio alternatives (RQ3). Local content, such as *Coka Iba* traditions, Weda Bay, clove farming, and coastal fisheries, was embedded in the media and described by informants as relatable and meaningful (RQ4). Interpreted through the four-phase model of interest development, the evidence is strongest for triggered and maintained situational interest and limited for emerging individual interest.

These findings suggest that, in resource-limited schools, offline interactive media combined with local content can be a feasible way to support students' situational interest. Teachers can pair such media with prompts that invite participation, and schools can support them through shared projector schedules and repositories of offline materials. The study is limited to one school, 14 participants, and a single main data-collection period, so its findings are not statistically generalizable. Future research could follow students over a longer period, include multiple schools, or co-design local-content media with teachers.

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