

## DEVELOPMENT OF HIGHER ORDER THINKING SKILLS (HOTS) ASSESSMENT INSTRUMENTS BASED ON LOCAL HISTORY IN HISTORY LEARNING

*DESENVOLVIMENTO DE INSTRUMENTOS DE AVALIAÇÃO DE HABILIDADES DE  
PENSAMENTO DE ORDEM SUPERIOR (HOTS) BASEADOS NA HISTÓRIA LOCAL  
NA APRENDIZAGEM DE HISTÓRIA*

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**Abstract**

This study aims to develop a Higher Order Thinking Skills (HOTS) assessment instrument based on local history in history learning. Existing assessment instruments often only measure low-level cognitive aspects, so it is necessary to develop instruments that can assess students' critical thinking, creativity, and problem-solving skills. The development model used is Tessmer's formative research development model. This study consists of two stages, namely the preliminary stage and the prototyping stage with a formative evaluation flow consisting of expert review, one-to-one evaluation, small group evaluation, and field test evaluation. The instruments developed include essay tests, which integrate local historical narratives to make the questions more relevant and contextual for students. Expert validation results show that these instruments are valid and suitable for measuring students' HOTS. The data collection techniques used in this study are documentation, walkthroughs, observation, and interviews. The assessment instruments developed in this study were tested for quality through content validity, construct validity, reliability, and practicality in implementation. The results of the study show that these instruments are feasible, valid, practical, and effective for use. These instruments are expected to be an alternative for history teachers to evaluate students' higher-order thinking skills more comprehensively.

**Keywords:** Higher Order Thinking Skills (HOTS). Assessment Instrument. Local History. Contextual Learning.

**Resumo**

*Este estudo tem como objetivo desenvolver um instrumento de avaliação de Habilidades de Pensamento de Ordem Superior (HOTS) baseado na história local na aprendizagem de história. Os instrumentos de avaliação existentes frequentemente medem apenas aspectos cognitivos de baixo nível, portanto, é necessário desenvolver instrumentos que possam avaliar o pensamento crítico, a criatividade e as habilidades de resolução de problemas dos alunos. O modelo de desenvolvimento utilizado é o modelo de desenvolvimento de pesquisa formativa de Tessmer. Este estudo consiste em duas etapas, a saber, a fase preliminar e a fase de prototipagem, com um fluxo de avaliação formativa que consiste em revisão por especialistas, avaliação individual, avaliação em pequenos grupos e avaliação em teste de campo. Os instrumentos desenvolvidos incluem testes de redação, que integram narrativas históricas locais para tornar as questões mais relevantes e contextuais para os alunos. Os resultados da validação por especialistas mostram que esses instrumentos são válidos e adequados para medir as HOTS dos alunos. As técnicas de coleta de dados utilizadas neste estudo são documentação, orientações, observação e entrevistas. Os instrumentos de avaliação desenvolvidos neste estudo foram testados quanto à qualidade por meio de validade de conteúdo, validade de construto, confiabilidade e praticidade na implementação. Os resultados do estudo mostram que esses instrumentos são viáveis, válidos, práticos e eficazes para uso. Espera-se que esses instrumentos sejam uma alternativa para que os professores de história avaliem as habilidades de pensamento de nível superior dos alunos de forma mais abrangente.*

**Palavras-chave:** Habilidades de Pensamento de Ordem Superior (HOTS). Instrumento de Avaliação. História Local. Aprendizagem Contextual.

**1 INTRODUCTION**

21<sup>st</sup> century education requires students to develop competencies that go beyond memorizing facts and concepts. The skills needed are critical thinking, creativity, and problem-solving skills (Rusmin & Misrahayu, 2024). These skills are collectively known as Higher Order Thinking Skills (HOTS) and are considered an important asset for the younger generation to compete and contribute in the modern era.

In the context of history education, there has been a significant paradigm shift. Learning no longer focuses solely on the chronological narrative of past events (Galán,

2016), but rather on the ability of students to analyse, evaluate, and reflect (Gladovic et al., 2024) on the historical values contained therein. An analysis of curriculum objectives shows that these higher educational goals causally require changes in teaching methods (Ali, 2018) and, more fundamentally, in assessment instruments. If the assessments given only measure memory, then learning will tend to stagnate at the low-order thinking skills (LOTS) level, regardless of the ideal curriculum objectives. Therefore, the development of HOTS assessment instruments is a crucial step in promoting more relevant and challenging pedagogical practices and accurately measuring more complex cognitive abilities (Maxnun et al., 2024; Rahayu et al., 2023; Rukmana et al., 2024). To make history learning more meaningful and relevant, it is necessary to integrate contexts that are close to the lives of students. Local history and local wisdom offer very rich and authentic resources to achieve this goal.

This integration can be done by incorporating local historical knowledge into learning materials or by using relevant concrete examples (Wijayanti et al., 2025). Thus, history learning becomes not only a study of the distant past, but also a reflection of the local historical identity and heritage that shapes the character of students and their nation. This study aims to outline a theoretical framework and detailed methodology for developing local history-based HOTS assessment instruments in history learning. In addition, this study will also integrate conceptual foundations, research and development (R&D) methodology procedures, analysis of best practices, and identification of challenges along with strategic recommendations for implementation in the field (Madu et al., 2025).

The novelty of this research lies in its innovation in developing HOTS assessment instruments that not only measure higher-order thinking skills but are also integrated with local historical values, symbols, and artifacts. This approach differs from general HOTS assessments, which tend to be generic and non-contextual. The assessment instrument was developed based on local history, making it more relevant to students' experiences. This provides a new dimension to history learning, namely making history more alive, closer to the local socio-historical reality of students, and increasing emotional attachment. In addition to measuring analytical, evaluative, and creative skills, this assessment also instils local wisdom values. Thus, this research presents a unique contribution: HOTS assessments are not merely cognitive measurement tools, but also instruments for character building based on local history. The results of this study offer

an assessment model that can be used as a reference for history teachers in developing contextual instruments based on local history, so that they can be adapted in various regions according to their respective local wisdom.

## 2 LITERATURE REVIEW

### 2.1 Assessment

Assessment is a fundamental mechanism in education that serves to collect data and information about student learning outcomes. The results of this assessment are then used to evaluate, monitor the progress of the learning process, and provide scores for learning achievements (Sirianansopa, 2024; Tutunaru, 2023). In the Merdeka Curriculum, assessment focuses not only on cognitive aspects, but also on students' ability to apply attitudes (affective) and skills (psychomotor). To achieve this, various assessment instruments, such as tests, observations, interviews, and rating scales, are needed to assess students' potential in depth.

Assessment is understood as a systematic process of collecting, interpreting, and using evidence of learning to improve teaching and student learning outcomes. The “assessment for learning” framework emphasizes that assessment is not merely a tool for measuring outcomes, but an integral part of the learning process that provides continuous feedback so that students know their learning position and the next steps for improvement (R. Hidayat et al., 2023; Schellekens et al., 2021). In other words, assessment for learning is prospective: it informs instructional decision-making as learning occurs, not just at the end (e.g., through summative tests). This perspective emphasizes clear communication of expectations, collection of valid evidence of learning, and actionable feedback for students and teachers.

In the context of history learning, assessment should not merely test factual memory; it should measure historical thinking skills, such as the ability to analyse primary sources, assess the credibility of evidence, contextualize events, and construct data-based arguments (Tirado-Olivares et al., 2024). Recent studies show that the design of certain instruments and digital tools (e.g., collaborative boards) can enhance the evaluation of historical thinking skills in (Burgos-Videla et al., 2025; Kuwoto et al., 2024) a more authentic and participatory manner.

Furthermore, a focus on Higher Order Thinking Skills (HOTS), analysis, evaluation, and creation in history assessment is important so that students do not merely memorize chronology (Azid et al., 2022; Madu, 2017; Widana, 2017), but are able to interpret, compare narratives, and construct alternative interpretations. A number of studies over the past ten years have underscored the urgency of developing validated HOTS instruments for social studies or history, with clear indicators and rigorous development procedures.

Local culture-based history education seeks to link historical material with local values, artifacts, traditions, and collective memory, thereby making history “present” in students' daily lives. In this framework, assessment plays a dual role (Chen & Bonner, 2020; Levy-Feldman, 2025): (1) as a pedagogical tool to facilitate contextual historical understanding, and (2) as a cultural mechanism to strengthen the identity and participation of young citizens in their local historical heritage. Recent research in Indonesia and the region shows that integrating local wisdom (Sakti et al., 2024) into learning and the curriculum can enrich learning experiences, foster pride, and strengthen students' local historical identity.

For this function to be effective, assessment needs to be designed to be contextually and culturally responsive to local history. This approach requires alignment between assessment indicators, tasks or performance tasks, rubrics, and the local historical context of students, including language, symbols, practices, and local memory, as well as ensuring fairness and sensitivity to local history in the items and scoring criteria (Lestari & Yusuf, 2025; Moinoddin & Rajhy, 2017). Recent reports and studies emphasize the need to review assessment practices so that they are not biased against local history, provide space for diverse representations, and include local experiences and knowledge as valid sources of learning evidence.

In practice, the role of assessment in local history-based learning can be broken down as follows (Lestari & Yusuf, 2025; Moinoddin & Rajhy, 2017): **(1)** Diagnosis and mapping of prior knowledge. Initial tasks may ask students to map their knowledge of local sites, figures, rituals, or archives. The results help teachers tailor their teaching, identify historical misconceptions, and design interventions that are sensitive to local history (Lestari & Yusuf, 2025; Moinoddin & Rajhy, 2017). The assessment for learning approach encourages early evidence collection and feedback that encourages student goal-setting. **(2)** Formation of identity and historical literacy. Assessments that ask

students to interpret local historical artifacts, record family or community oral histories, or analyse local events in relation to national narratives encourage sourcing, contextualization, and corroboration skills (DeSilva, 2023). Recent findings show that history learning models emphasizing local experiences can strengthen cultural identity and provide high learning relevance. **(3)** HOTS development through authentic performance. HOTS instruments, such as rubrics for argumentative essays (Ozfidan & Mitchell, 2022) based on local primary sources, mini-exhibition (curation) projects of artifacts, or position papers on local historical controversies, enable more valid analysis-evaluation-creation assessments than multiple-choice tests. Recent literature in the social sciences or history and HOTS measurement provides guidance on indicators and construct validation for such tasks. **(4)** Meaningful and fair formative feedback. Culturally responsive assessment emphasizes feedback that respects local modes of expression (e.g., oral narratives, local historical metaphors) and provides clear pathways for revision. This framework helps address underrepresentation or interpretive bias, so that local learning evidence is not positioned as “less academic” than canonical sources. **(5)** Digital innovation for participatory assessment. The use of collaborative platforms, such as digital boards for uploading photos of historical sites (Wegner et al., 2024), narrative maps, or curated community archives has been shown to increase participation and facilitate the assessment of historical thinking in stages (e.g., commenting, peer review, revision history). Recent studies show the positive impact of such technologies on the assessment of historical skills.

To be valid and reliable, the design of assessments in local history-based learning needs to pay attention to several principles, namely **(1)** Construct and content validity: Indicators must truly represent HOTS and historical thinking skills, with items that reflect local historical variations without compromising academic standards. The latest framework on HOTS indicators can be used as a reference in formulating rubrics and performance levels. **(2)** Fairness and sensitivity to local history: Avoid items that assume one local historical norm as a universal standard. Involve local stakeholders (traditional leaders, archival communities, regional museums) in reviewing the content and language of the assessment. The local history responsive assessment guide emphasizes this partnership, including discussions with instrument/technology providers to ensure that features and content are free of bias. **(3)** Focus on learning assessment for learning: Ensure assessments are formative, providing quick, specific, actionable feedback and opening

space for student self-reflection (assessment as learning). Recent reviews of assessment for learning emphasize transparency of criteria, student involvement in self or peer assessment, and integration of assessment with daily instruction. (4) Authenticity and context: Performative tasks that mimic the practices of historians—evaluating local primary sources, curating thematic exhibits, or writing micro-historical narratives—make assessments more meaningful and foster the transfer of knowledge from the classroom to the community. Empirical evidence shows that locally-based approaches enrich historical learning and character.

## 2.2 Higher Order Thinking Skills (HOTS)

Higher Order Thinking Skills (HOTS) is an important concept in modern education that aims to go beyond rote learning and encourage students to think more deeply and critically (Indriyana & Kuswandono, 2019; Ragab et al., 2024). Rather than simply memorizing facts, students are taught to analyse, evaluate, and create new ideas. HOTS is not just an academic term, but a holistic approach that prepares individuals to face complex challenges in the real world, both in their careers and daily lives. In this article, we will thoroughly explore what HOTS is, why it is so important, and how to apply it effectively.

HOTS is a concept that distinguishes critical thinking skills from low-level learning outcomes obtained through memorization. These skills involve complex cognitive abilities such as problem solving, critical thinking, reasoning, and metacognitive abilities (Niu et al., 2013; Rusmin & Misrahayu, 2024). HOTS is not only considered more difficult to teach and learn, but also considered more valuable because these skills are more likely to be applicable in new or unfamiliar situations.

The HOTS concept is based on various learning taxonomies, particularly Bloom's Taxonomy, which was revised by Anderson and Krathwohl (Wilson, 2016). Although lower cognitive levels are considered the foundation for higher levels, this research challenges the assumption that students must first master lower-level skills. Instead, higher-order thinking skills are essential even at the elementary school level. This implies that curricula and assessments should consistently encourage students to engage in more complex thinking processes from an early age.

According to Bloom's taxonomy, revised by Anderson and Krathwohl, HOTS covers three main domains: analysis, evaluation, and creation (Mujayanah et al., 2022; Wilson, 2016). Analysis means breaking down information into parts and understanding the relationships between them; evaluation refers to making judgments based on specific criteria; while creation emphasizes the ability to develop new ideas or innovative solutions. It is important to note that HOTS are not separate skills, but rather an integrated process. In order to evaluate, one must first analyse. And in order to create, one must be able to analyse and evaluate. Therefore, a curriculum focused on HOTS must be designed in stages, building basic skills before moving on to more complex ones.

In history education, HOTS translates into skills such as: **(1) Analysis:** distinguishing facts and opinions in historical sources, identifying the causes and effects of an event, or comparing historical narratives from different perspectives. **(2) Evaluation:** assessing the validity of primary sources, critiquing bias in historical documents, or evaluating the relevance of an event to contemporary conditions. **(3) Creation:** composing alternative historical narratives, creating local history exhibition projects, or designing learning media based on local folklore. HOTS in history is also related to historical thinking skills, such as sourcing, contextualization, corroboration, and interpretation. All of these skills teach students that history is the result of reconstruction, not a single truth, and therefore requires critical skills in understanding the past.

### **2.3 The role of local history as a basis for HOTS development**

Local history has a strategic position as a context in HOTS development because it is contextual, close to students' experiences, and rich in values. For example, in Maluku society, the tradition of *pela gandong* can be used as material for critical discussion about the values of unity and social conflict (Nofarof Hasudungan & Dewi Sartika, 2019). In Java, the story of *wayang* can be used as a means of analysing moral values and leadership (Hidayat et al., 2025). In East Nusa Tenggara, the tradition of ikat weaving is not only a product of local history, but also a socio-historical document that reflects the structure of society and collective identity.

Through local history, students can be trained to analyse symbols, assess their meanings, and create interpretive works that connect the past with the present (Yasa et al., 2025). In other words, local history functions as a concrete laboratory for critical thinking. Students

not only learn about universal theories, but they also learn through the lens of their own identities. This not only enhances understanding, but also fosters a sense of pride and ownership of their local historical heritage.

Local history is a treasure trove of knowledge that has not been widely explored in the context of education. Every tradition, every artifact, and every story have layers of meaning that can be analysed and evaluated. Folktales, myths, and legends that have been passed down from generation to generation often contain moral messages, social values, and the worldviews of local communities. Teachers can ask students to analyse the characters in stories, the motives behind their actions, or the symbolism contained in certain objects. For example, analysing why the stories “*Si Tanggang*” or “*Malin Kundang*” (Malay version) are so relevant as reminders of the importance of respecting parents, or why certain puppet characters are depicted with certain attributes (Sulaiman et al., 2025). Similarly, traditional arts such as batik, carving, or dance can be rich objects of analysis. Students can analyse carving patterns, the philosophical meaning behind dance movements, or the symbolism of colours in traditional fabrics. This encourages them to see beyond visual beauty and explore deeper meanings.

Local history is also rich in local wisdom, which often provides practical and sustainable solutions to social or environmental problems (Lusianawati et al., 2023; Taneo et al., 2024; Taneo & Madu, 2023). Teachers can challenge students to evaluate the effectiveness of this local wisdom in a modern context. For example, students can evaluate the traditional “subak” irrigation system in Bali—how the system is not only efficient in managing water, but also functions as a social and religious system that maintains community harmony (Ardana et al., 2024). In addition, students can evaluate specific social practices such as mutual assistance, deliberation, or kinship traditions. They can weigh the advantages and disadvantages of these practices in the modern era, compare them with practices from other local histories, and form structured arguments about their relevance or the need for adaptation.

The highest level of HOTS is the ability to create. Local history can serve as fertile ground that inspires the creation of new works (Taneo et al., 2024). It is not about imitating the past, but rather about using local historical heritage as fuel for innovation. Students can be challenged to create solutions to local problems using principles from their local history. For example, students could be asked to create a sustainable tourism business model that integrates local hospitality traditions. They could design a community

program to address waste issues by adapting the spirit of mutual cooperation. This allows them to see local history not as a static object to be preserved, but as a dynamic tool for problem solving. Students can be encouraged to recreate folklore in modern formats, such as comics, short films, or theatre plays. They can write songs with lyrics inspired by traditional poetry or create fashion designs that combine ethnic motifs with contemporary styles. This gives them the opportunity to express their understanding of local history in creative and innovative ways.

To maximize the role of local history, a planned learning strategy is needed (Apdelmi et al., 2025; Baco et al., 2018): **(1) Study of Local Primary Sources.** Teachers can use historical sources such as village archives, local manuscripts, artifacts, or folk tales. Students are asked to analyse authenticity, assess reliability, and compare with national historical narratives. This strategy hones sourcing and evaluation skills. **(2) Problem-Based Learning** Students are given a problem, such as how to preserve a local historical site that is in danger of being lost. They need to research the background, evaluate the contributing factors, and come up with creative solutions. This encourages analytical, evaluative, and creative thinking. **(3) Comparative Narrative Discussions.** Local historical narratives often differ from the official history. Teachers can assign students to compare two or more versions of events, then discuss the differences in interpretation. Such discussions train critical skills in evaluating sources. **(4) Project-Based Learning.** Local history exhibition projects that display regional historical artifacts can foster creative skills. Students not only collect information, but also compile new interpretations and present them in visual and digital forms. **(5) Digital Technology Integration.** Collaborative platforms such as blogs, podcasts, or digital map applications enable students to document oral history or local traditions. These activities require source analysis, information evaluation, and the creation of new content that meets the needs of the digital generation.

The application of HOTS in local history-based history learning has various benefits, including: **(1) Improving historical literacy.** Students not only know “what happened” but also ‘why’ and “how” events took place. They are accustomed to thinking cause-and-effect, seeing connections between events, and understanding historical dynamics critically. **(2) Strengthening local historical identity.** By interpreting local historical heritage, students learn to value collective identity. They understand that history is not just a grand national narrative, but also the story of their own community. **(3)**

Developing 21<sup>st</sup> century skills. Analysis, evaluation and creation are key skills needed in the global era. With a local history base, students also practice collaboration, communication and the use of technology to interpret history. (4) Promotes meaningful learning. Materials that are linked to everyday local history experiences make students feel close to history lessons. This increases motivation, participation and knowledge retention. (5) Bringing cognitive and affective balance. HOTS not only hone thinking skills, but also foster critical attitudes, respect for heritage, and awareness to preserve local history. Thus, history learning does not stop at the cognitive domain, but also affective and psychomotor.

HOTS development is a double investment. Not only are we training students to think more critically and creatively, but we are also ensuring that their local historical heritage remains alive and relevant in the midst of globalization. It is a powerful way to educate a generation that is not only intelligent, but also firmly rooted in their own identity, ready to face the future without forgetting the past.

#### **2.4 Local history integration**

History learning is often viewed as a series of facts, dates, and names to be memorized. This approach, which focuses on low-level thinking (LOTS), often leaves students feeling bored and far from the true meaning of history. However, by integrating Higher Level Thinking Skills (HOTS) and utilizing the richness of local history, learning history can be transformed into a lively, relevant and meaningful experience (Lyne G. Pius et al., 2019; Ragab et al., 2024). Integrating local history not only makes history feel closer to students, but also provides a rich foundation for developing analysis, evaluation and creation skills.

The integration of local history in history learning can be done through various ways (Taneo & Madu, 2022), such as including it as local content in the curriculum, or as content and context in the learning process. The use of local history as a learning context has tremendous power to develop HOTS (Stefaniak et al., 2017). HOTS instruments are designed not to be answered by memory alone. For this reason, the instruments must use a new and contextual stimulus. Local history serves as an ideal authentic stimulus, as it provides a real context that is relevant to learners. The use of local history-based stimulus forces learners to think, interpret and apply their knowledge

in situations that have never been explicitly discussed in class. The synergy between historical content, local history context, and HOTS cognitive framework creates a learning ecosystem that is not only relevant and engaging, but also intellectually challenging.

History is not just past events that happened in faraway places. History is all around us, manifested in architecture, traditions, artifacts and stories passed down from generation to generation. Using local history as a primary source in history learning has several significant advantages (Fahrudin & Saefudin, 2025): **(1) Relevance and Authenticity:** Students can see evidence of history first-hand in their environment, whether it is through building relics, historical sites, or customary practices. This makes abstract concepts real and relevant. **(2) Rich Primary Sources:** Local history, including oral stories, traditions, and artifacts, serve as authentic primary sources. Students can act as little historians, analysing and interpreting these sources instead of just reading textbooks. **(3) Identity Development:** Understanding local history is an integral part of self-identity formation. It helps students appreciate their roots, feel proud of local historical heritage, and understand how the past shapes the present.

By integrating local history, we change the learning questions from “What happened?” to “Why did this happen?” and “How does it impact us today?”, which is the essence of HOTS. The following are practical strategies for integrating local history in HOTS-based history learning: **(1) Analysing.** Analysing skills involve breaking down information into smaller parts to understand its structure. Local history offers many opportunities for this. **(2) Evaluating.** Evaluation skills require students to make judgments based on certain criteria, distinguish fact from opinion, and consider different points of view. **(3) Creating.** The highest level of HOTS is creation. This involves synthesizing new information and creating original products. Local history is an infinite source of inspiration.

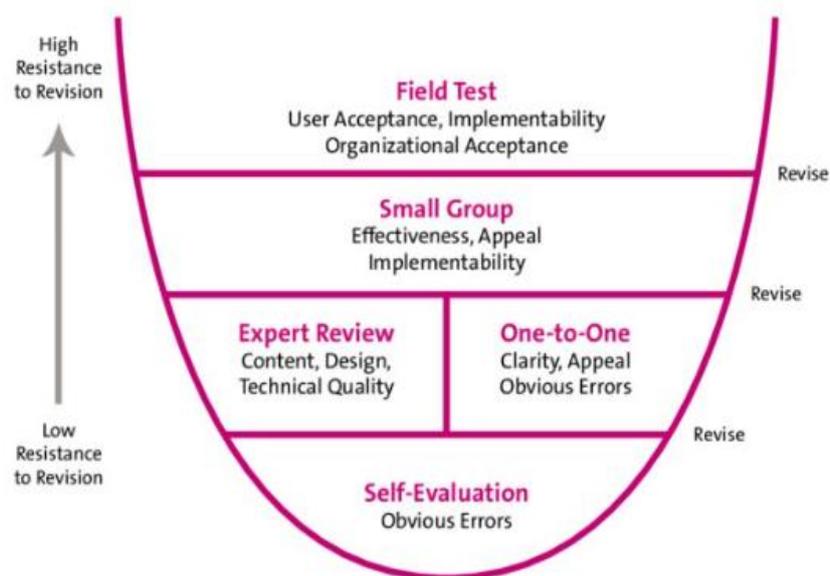
Integrating local history in history learning is not just about teaching the past. It is about training students to be critical thinkers, careful researchers and innovative creators. It is a way to ensure that history is not just memorized, but lived, appreciated, and used as a tool to understand the world we are today missing out on.

## **2.5 Research method**

The type of research used in this study is development research using the design research method. The development model used is Tessmer's (1993) formative research development model (Lubis et al., 2022; Usnul et al., 2019). This research consists of two stages, namely the preliminary stage and the prototyping stage with a formative evaluation flow consisting of expert review, one-to-one evaluation, small group evaluation, and field test evaluation (Lubis et al., 2022; Usnul et al., 2019). The research was conducted in class XI of SMA Negeri 1 Webriamata.

### Figure 1

*Tessmer's (1993) formative research development model*



Source: (Lubis et al., 2022; Usnul et al., 2019)

In the preliminary stage, researchers conducted student analysis and HOTS instrument needs analysis. Then, researchers collected existing HOTS instruments from student worksheets and other sources. This activity was carried out to modify the HOTS instruments so that they became HOTS instruments based on the local history of Malaka. The researchers designed test instruments consisting of instrument grids, instrument cards, answer keys, and scoring rubrics. This product design was Prototype I. Prototype I was evaluated by the researchers themselves. Next, the formative evaluation stage was carried out. In the formative evaluation stage, the product that has been created or designed will be evaluated. In this evaluation stage, the product will be tested in four groups, namely Expert Review, One-to-One, Small Group, and Field Test. The design

results of Prototype 1 were submitted to Expert Review and One-to-One, which were conducted in parallel. The Expert Review stage involved testing the validity of the instrument items by experts. This was done by assessing each instrument item based on content, construction, and language. The validators' suggestions and comments were used as input for revising Prototype 1.

Along with validation by experts, a one-to-one stage was conducted. This stage involved three students with varying abilities (low, medium, and high). Students were asked to read and examine the Instrument and then provide feedback on the readability and clarity of the Instrument. The findings obtained in the Expert Reviews and One-to-One stages were used to revise the Prototype. The result of this Prototype 1 revision is Prototype 2.

Next, Prototype 2 was tested on students in the Small Group stage. This stage involved six students with varying abilities to complete the Prototype 2 Instruments. The students selected were two students with low abilities, two students with moderate abilities, and two students with high abilities. Then, the students were also asked for their opinions and comments on the Instruments they had worked on by filling out a questionnaire on the practicality of the Instruments. This stage focused on the practicality of the Instruments that had been developed. The findings from the Small Group stage were used to revise Prototype 2 into Prototype 3. The next stage of the research was the Field Test.

At this stage, Prototype 3, which had been validated and tested in practice, was trailed on 30 students in grade XI at Webriamata State Senior High School. The results of the field test were in the form of student answer sheets, which were then analysed descriptively to determine the potential effects of the HOTS instrument using the local historical context that had been developed and validated. The instruments used in this study were tests using HOTS instruments based on the local history of Malaka Regency with the subject of local history, as well as validation sheets to test the validity of the tests by experts. Meanwhile, the data collection techniques in this study were: (1) documentation; (2) walkthrough conducted with experts, then the appointed experts would provide comments or suggestions on the products that had been developed. The walkthrough was analysed descriptively through the experts' comments in the form of suggestions and comments as input for making revisions to the creation of Prototype 1. The prototype was declared valid if the experts declared it valid in terms of content,

construct, and language used (Afgani & Paradesa, 2021; Aini et al., 2022); (3) Interviews about the developed product; (4). Questionnaires, which are a data collection method conducted by giving a set of questions or written questions to respondents to be answered according to user requests (Afgani & Paradesa, 2021; Aini et al., 2022). Questionnaires were used to find out the students' opinions and responses to the practicality of the instrument after the product was tested at the Small Group stage. The steps for analysing test data are 1) Assigning scores to the answers based on predetermined benchmarks; (2) Converting the scores obtained by students into values ranging from 1 to 100 using the following formula:

$$Score = \frac{Scores\ achieved}{Maximum\ score} \times 100 \quad (1) \text{ (Madu et al., 2025)}$$

After obtaining the final scores for each student, the average score for the students was determined. The average score obtained was converted into qualitative data to show that this instrument met the criteria for effectiveness.

**Table 1**

*Student Learning Outcome Assessment Categories*

No	Grade	Criteria
1	76 – 100	Very effective
2	56 – 75	Effective
3	40 – 55	Quite effective
4	0 – 39	Less effective

Source: (Madu et al., 2025)

To calculate the practicality of HOTS assessment instruments, research results were obtained through questionnaires and assisted HOTS learning based on local culture. Students and teachers were asked to determine the practicality of the HOTS assessment instruments being studied. Practicality scores were calculated using the following formula:

$$Final\ Score = \frac{The\ score\ obtained}{Maximum\ Score} \times 100\% \dots (2) \text{ (Madu et al., 2025)}$$

The assessment results are grouped based on their practicality level, as shown in Table 2.

**Table 2***Practicality Level Categories of Instruments*

No	Achievement Level (%)	Categori
1	81 – 100	Very Practical
2	61 – 80	Practical
3	41 – 60	Quite Practical
4	21 – 40	Less Practical
5	0 – 20	Not Practical

Source:(Madu et al., 2025)

### 3 RESULTS AND DISCUSSION OF RESEARCH

#### 3.1 Results

##### 3.1.1 Preliminary stage

At this stage, the researcher conducted an analysis of students after observing them at Webriamata Public High School, Malaka Regency, where the researcher conducted the research. The results of the observation were obtained regarding the knowledge, class, gender, and learning styles of each student. The researcher used a sample from class XI B. The students who were sampled for the study had different abilities or knowledge levels (high, medium, and low) and different backgrounds in terms of ability or knowledge. The students had fairly good initial abilities regarding flat-sided spatial figures. This was useful as the students' initial abilities could help them in completing the HOTS instruments for flat-sided spatial figures.

Next, an analysis of HOTS instrument requirements was conducted, where researchers obtained information that students need HOTS instruments based on local history that can train students to work on HOTS-based instruments with a Malaka context. The use of context in local history learning makes abstract concepts understandable based on thinking built on specific realistic situations that are well known to students (Apdelmi et al., 2025; Mbatha & Moreeng, 2024).

The current tendency among students is that they do not recognize their own local history. These local history-based HOTS instruments can be used as local content in history learning in Malaka. The hope is that this will foster students' love for their local history and preserve it (Ratri et al., 2025; Sariyatun & Marpelina, 2024). Furthermore, the researcher designed a HOTS test instrument based on local history in the 11th grade

local history material. The initial stage carried out by the researcher was to modify the existing HOTS instruments to become HOTS instruments based on the local history of Malaka. The researcher designed a test instrument grid that refers to the competency achievement indicators and cognitive levels of each instrument. After that, the researcher designed HOTS instrument items into HOTS instrument cards and designed scoring guidelines to make it easier for researchers, teachers, and other researchers to assess the HOTS tests completed by students.

### *3.1.2 Prototyping stage*

Expert Review was used as the basis for revising and refining the prototype. Instrument validation was carried out by providing instrument validation sheets, test grids, test instrument cards, answer keys, and scoring guidelines to the validators. The validators consisted of two lecturers from the History Education Department at Nusa Cendana University and a history teacher. Based on the validators' assessment, it was concluded that the local history-based HOTS instrument on local history material had met the validity indicators in terms of content, construct, and language. However, revisions were still made to Prototype I based on the comments and suggestions from the validators. The validators suggested adding stimuli so that students would learn about traditional houses and Malaka woven fabrics.

Next, one-to-one trials were conducted along with validation by Expert Review. This stage involved three non-research subjects, students from class XI A at Webriamata Public High School. Ten HOTS instruments were distributed to the students. The students were asked to read, examine, and complete the instruments. After completing the instruments, the researchers interviewed each student about the obstacles they faced in relation to the readability of the instruments (language), the time needed to answer the instruments, the material related to the instruments, and other obstacles experienced by students in answering the instruments. Based on the comments and suggestions from the one-to-one interviews, the instruments in Prototype 1 were then revised and improved to become Prototype 2, which was valid and could be tested in the next stage, namely Small Group.

Next was the small group test (Small Group). The Small Group stage was tested in the Small Group stage. After completing the task, students were asked to write

comments on the instruments they had worked on. Students were then given a questionnaire to determine the practicality of the instruments. The practicality of the instruments was evident in the Small Group stage, where all students were able to understand the purpose of the instruments well, in accordance with the students' train of thought. The instruments were easy to read and did not cause diverse interpretations based on the questionnaire given by the researcher to the students.

Based on the analysis of the questionnaire scores, it is classified as practical. The product that has been developed, which is a HOTS instrument based on local history, is declared practical based on the results of the student questionnaire on the practicality of the questions. Prototype 3, which has been declared valid by experts and tested individually and found to be practical based on the results of the student questionnaire at the Small Group stage, can proceed to the next stage, which is field testing.

The field test of Prototype 3 was conducted on the research test subjects, namely 11th grade students at Webriamata State High School. The test was conducted for 3 x 40 minutes. Students were asked to answer 10 HOTS test questions containing essay questions. The results obtained from the students' answers were analysed descriptively. In addition, based on the results of the students' work, an analysis was conducted to measure the potential effect on students' basic mathematical abilities and the ability to attract interest and motivate students so that they feel challenged to complete the HOTS questions, as seen from the scores obtained by the students in completing the test questions that had been developed. Based on the students' test scores and document analysis of the students' answer sheets in the Field Test stage for the developed questions. The results of the students' answers in the Field Test stage can be seen in Table 3.

**Table 3**

*Student Answer Scores in the Field Test Stage*

No	Subject	Score	No	Subject	Score
1	S1	78	16	S16	85
2	S2	79	17	S17	87
3	S3	78	18	S18	88
4	S4	80	19	S19	81
5	S5	83	20	S20	83
6	S6	85	21	S21	80
7	S7	82	22	S22	82
8	S8	78	23	S23	78
9	S9	79	24	S24	78
10	S10	88	25	S25	80
11	S11	83	25	S26	79

12	S12	84	27	S27	85
13	S13	82	28	S28	86
14	S14	80	29	S9	83
15	S15	79	30	S30	79
<b>Total Score</b>					<b>2452</b>
<b>Average</b>					<b>81,73</b>

Source: Authors.

Based on Table 3, the average student score was 81.73, which is categorized as Very Effective. Based on the analysis of the developed product documents, they have a potential effect on students' abilities and are able to attract students' interest and motivate them so that they feel challenged to complete HOTS questions.

#### 4 DISCUSSION

This study focuses on the development of higher order thinking skills (HOTS) assessment instruments based on local history in history learning. The results show that assessments designed with consideration of the local historical context are able to accommodate the needs of students in developing critical, analytical, creative, and reflective thinking skills. The discussion of this study covers three main aspects, namely: (1) the urgency of developing HOTS assessment instruments in history learning, (2) the relevance of integrating local history into assessment, and (3) the quality of the instruments developed in terms of validity, reliability, and practicality.

History learning at the secondary school level is often still dominated by an emphasis on factual and memorization aspects. Students are directed to remember dates, names of figures, and important events, leaving little room for the development of analytical, evaluative, and creative skills. However, according to Anderson and Krathwohl (2010), the highest level of thinking in cognitive taxonomy is the ability to create, which requires students to be able to formulate solutions, integrate information, and generate new ideas (Tee Tze Kiong et al., 2010; Wilson, 2016).

The assessment instruments developed in this study are important because they are oriented towards higher-order thinking skills, rather than simply remembering or understanding skills (Abosalem, 2015; Kusuma et al., 2017; Li et al., 2024). The results of the study show that HOTS assessment instruments based on local history can trigger students to interpret historical events from various perspectives, criticize the roles of figures, and compare the relevance of past events with present-day life. Thus, assessment

not only functions as an evaluation tool but also as a means of learning that stimulates students' critical thinking skills.

The integration of local history in assessment instruments has been proven to have a significant impact on student engagement and motivation to learn (Aman, 2019; Balalle, 2024; Sariyatun & Marpelina, 2024). Local history is a narrative of events that are close to the lives of students, whether from a geographical, social, or cultural aspect (Carolyn et al., 2023). When assessment material is linked to local history, students find it easier to understand the context because they have an emotional connection (Huang & Lajoie, 2023) and identity with the events being studied.

The findings of this study are in line with (Sariyatun & Marpelina, 2024; Setiawati et al., 2021; Wijayanti et al., 2025) view that local-based history learning can foster historical awareness and strengthen national identity. Through local history-based assessments, students are not only tested on their understanding of the material, but also challenged to connect historical values with contemporary social issues in their environment (Baco et al., 2018; Mbura & Wiyanarti, 2024; Winarti, 2017).

An example of implementation found in this study is when students were asked to analyse the Malaka people's resistance to colonialism. The question not only tested their understanding of the chronology of events, but also required students to critically analyse the causes, strategies of struggle, and its relevance to current nationalism. This kind of integration provides added value because it builds historical skills that are relevant to the demands of the 21<sup>st</sup> century (Drake & Reid, 2020; Kim et al., 2019).

The assessment instruments developed in this study were tested for quality through content validity, construct validity, reliability, and practicality in implementation (Drake & Reid, 2020; Kim et al., 2019). Validation by experts showed that the questions were in line with the objectives of history learning and were able to represent the expected competencies. In addition, the selection of local history material was considered appropriate because it was in line with the curriculum and relevant to the context of the students.

The analysis showed that the instrument actually measured higher-order thinking skills, not just factual knowledge. This was reflected in the types of questions that required reasoning, interpretation, and logical argumentation. Thus, the instrument had a strong theoretical basis for measuring HOTS. Teachers who were respondents in the pilot test assessed that the instrument was easy to use and could be integrated into the learning

process (Huck et al., 2023). The questions cannot only be used for written tests, but can also be adapted in the form of project assessments or portfolios. Thus, the instrument is not only summative in nature, but also supports formative assessment that encourages reflection and continuous improvement of learning.

The results of the study show that the use of HOTS assessment instruments based on local history has a positive impact on the quality of history learning. *First*, students showed an increase in critical thinking skills, as seen in the way they constructed arguments, identified problems, and proposed alternative solutions. *Second*, there was an increase in learning motivation, because the history they studied was not just a distant story from the past, but something that was alive and relevant to their environment. *Third*, this instrument fosters a sense of belonging to local history, which in turn strengthens national identity and character.

These findings reinforce previous research by (Hamblin, 2020; Parimaladevi & Ahmad, 2019; Setiawan et al., 2021), which states that context-based HOTS assessments can improve historical thinking skills while building students' historical awareness. Thus, this study contributes to enriching the study of history learning assessments that are not only academically oriented but also have cultural value.

Although the results of the study show the effectiveness of the developed instrument, there are several limitations that need to be noted. *First*, the scope of local history used is still limited to the context of the Malaka region, so further adaptation is needed when applied in other regions. *Second*, the instrument was tested on a limited scale, so further research with a broader population is needed to strengthen the generalization of the findings.

The implication of this study is the importance of training for history teachers so that they are able to independently develop and implement HOTS assessments based on local history. Teachers need to be trained not only in question writing, but also in fair and comprehensive assessment techniques. In addition, policy support from schools and local governments is essential so that the integration of local history in assessments receives proportional attention. Theoretically, this study reinforces the theory of HOTS-based assessment by adding the dimension of locality as a contextual approach. This confirms that assessment is not only a cognitive measuring tool, but also a medium for shaping historical awareness and cultural identity. Practically, this study provides an assessment instrument model that can be used by history teachers in their daily teaching. This

instrument can be an alternative in assessing students' higher-order thinking skills while encouraging more meaningful and contextual learning. Thus, this study contributes significantly to improving the quality of history education in secondary schools.

## 5 CONCLUSION

Overall, this study shows that the development of HOTS assessment instruments based on local history is effective in improving students' higher-order thinking skills, strengthening students' connection with local history, and improving the quality of history learning. Although there are still limitations, this study opens up new opportunities for the development of assessments that are more contextual, comprehensive, and oriented towards character building in students.

Thus, HOTS-based and local history-based assessments are not only evaluation instruments, but also learning vehicles that support the development of students who are critical, creative, and have a strong historical awareness.

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