



THE INFLUENCE BETWEEN GENDER INTERPERSONAL SKILLS AND HIGHER-ORDER THINKING SKILLS IN HISTORY EDUCATION

Lukitaningsih¹, Nadya Tridrisna Manurung², Arfan Diansyah³, Lister Eva Simangunsong⁴, Mhd. Ihsan S. Nasution⁵
Departement of History Education, Faculty of Social Science, Universitas Negeri Medan, Medan, Indonesia¹²³⁴⁵

lukitaningsih@unimed.ac.id¹, nadyamrg@unimed.ac.id²,
arfandiansyah@unimed.ac.id³, listerevasimangunsong@unimed.ac.id⁴,
ihsansyahafnasution@unimed.ac.id⁵

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ABSTRACT

HOTS learning that includes analysis, evaluation, and creation is a challenge in 21st-century learning. This includes understanding the values of local wisdom to encourage analytical, creative, and evaluative thinking towards complex cultural heritage. In its development, critical and reflective thinking to understand local wisdom is influenced by factors such as gender and interpersonal intelligence. Understanding local wisdom not only requires cognitive abilities but also concerns one's position in society, gender roles, and interpersonal intelligence. Gender influences students' historical perspectives and experiences, while interpersonal intelligence relates to students' experiences in interacting, discussing, and analyzing local values. This study aims to explore the relationship between gender identity and interpersonal intelligence in influencing HOTS thinking in history learning based on local wisdom. Using a quantitative approach with descriptive statistical methods with a population of history students who take local wisdom courses selected through purposive sampling. The results of the study indicate that there is a significant influence of gender on higher-order thinking skills (HOTS), especially in the aspect of critical thinking in learning local wisdom, while in interpersonal intelligence, men and women have equivalent results. In addition, interpersonal intelligence does not significantly affect HOTS abilities. So it can be concluded that strategies that can bridge collaboration between genders will create successful local wisdom learning.

Key words: Gender, HOTS, Interpersonal Intelligence, Local Wisdom

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*Corresponding author:
lukitaningsih@unimed.ac.id

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INTRODUCTION

In the 21st-century learning era, mastering Higher Order Thinking Skills (HOTS) has become a primary demand in the education process (Sepriyanti et al., 2022), including among history students. This ability includes analysis, evaluation, and creation of various complex information, including in understanding the values of local wisdom. 21st-century learning demands a balance between abilities, and the development of high-level thinking skills or Higher Order Thinking Skills (HOTS) is a primary focus in creating graduates who are critical, reflective, and solution-oriented (Redhana, 2019). The HOTS concept and local wisdom can be measured through assessment methods including essay tests, portfolios, and presentations (Veriansyah & Nurhakim, 2021). However, the development of critical and reflective thinking skills is inseparable from personal and social factors inherent in individuals, such as gender and interpersonal skills.

The concept of HOTS according to Krathwohl (2001) is closely related to the cognitive taxonomy developed jointly with Benjamin S. Bloom and revised by Krathwohl and Anderson in 2001. In this revised version, Krathwohl (2002) classifies thinking skills into the three highest levels of the taxonomy, namely analyzing, evaluating, and creating. In his article titled *A Revision of Bloom's Taxonomy: An Overview*, higher-order thinking skills are defined not merely as remembering information, but as using that information to reason, solve problems, and create something new (Krathwohl, 2002). Within the context of local wisdom learning, HOTS encourages students not only to understand traditional values, but also to analyze their relevance to contemporary challenges, evaluate local practices critically, and design innovative solutions rooted in the wisdom of the local culture (Sari & Hindun, 2020).

Various non-academic factors also influence students' cognitive achievements, including aspects of gender and interpersonal skills (Eliza, 2020).

History students, who are expected to interpret local wisdom in depth, are not only required to master the material but are also challenged to think analytically, creatively, and evaluatively about complex cultural heritage (Romadi & Kurniawan, 2017). This article seeks to unravel the influence between gender, interpersonal skills, and the quality of high-level thinking of history students in interpreting local wisdom, where local wisdom is an important part of a nation's cultural identity, and understanding and applying local wisdom requires high-level thinking skills (HOTS).

The concept of wisdom is part of a society's culture that cannot be separated from the language of that society itself. Local wisdom is usually passed down from one generation to the next through stories such as folk tales, songs, folk games (J & Aymanda, 2023). Understanding local wisdom not only requires high-level cognitive abilities but is also influenced by how individuals position themselves in the social structure, including gender roles and interpersonal skills (Chairul, 2019). In this context, gender can shape students' historical perspectives and experiences, while interpersonal skills play a role in how they interact, discuss, and interpret local values in history learning (Sakman & Karim, 2024). Therefore, local wisdom as a cultural heritage is not only understood textually but also through the lens of complex social relations, including the dynamics of gender identity and the ability to establish constructive social relationships.

Interpersonal intelligence in this context shapes students' ability to understand other people's perspectives, communicate effectively, and collaborate in analyzing local wisdom values (Gardner, 1999).

Students with high interpersonal intelligence demonstrate superior critical thinking skills compared to those with low interpersonal intelligence, as they are better able to collaborate, discuss, and solve problems collectively, thereby enhancing their learning engagement and

critical thinking ability, which is a component of HOTS (Marsaulina et al., 2025). This aspect intersects with gender, as social experiences between men and women can influence how they interact and respond to cultural contexts. Thus, interpersonal intelligence influenced by gender construction contributes to honing high-level thinking skills (HOTS), especially in terms of critical, analytical, and reflective thinking towards contextual local values (Anisya & Fitriah, 2024).

In other literature, it is stated that social attitudes and emotional intelligence are positively and significantly related to student achievement, especially in female students, indicating differences in the influence of socio-emotional aspects based on gender (Armo et al., 2019). However, Aristiani (2021) in her research stated that intellectual intelligence and emotional intelligence have a positive and significant effect on student learning outcomes, but there are no significant differences between male and female students in both types of intelligence or their learning outcomes. Therefore, the results of this study can be taken into consideration in scientific debates related to the learning process from a gender perspective.

Gender differences can influence the interpersonal communication style tendencies of history students, which in turn play a role in shaping their high-level thinking strategies (HOTS), both in analyzing historical sources and in interpreting local wisdom critically and creatively. Referring to research conducted by Zubaidah Amir (2013) it was revealed that there are differences in the strategies used by male and female students in solving problems, where males tend to rely on spatial abilities, while females prioritize verbal strategies, but both have balanced potential and achievement if learning pays attention to gender equality. This is supported by other research which reveals that male students tend to be more dominant in using spatial abilities, especially in solving geometry problems, while female students rely more on their

logical reasoning, although both those with high logical-mathematical intelligence show spatial abilities at a high level (Alimuddin & MS, 2020).

Gender differences, as explained in the social construction theory (Zimmerman & West, 1987), not only affect individual roles and perceptions in academics but also shape the interpersonal interaction patterns of history students. These interaction patterns, which include communication skills, empathy, and collaboration, have direct implications for high-level thinking skills (HOTS), as conceptualized by Krathwohl (Krathwohl, 2002) in Bloom's revised taxonomy. In the context of local wisdom in North Sumatra, students with good interpersonal skills are able to process information from various sources, discuss it critically across gender perspectives, and produce interpretations that are creative and culturally relevant.

The questions posed are whether there are significant differences in students' HOTS abilities based on their gender and interpersonal levels in interpreting, analyzing, synthesizing, and applying local wisdom, and whether interpersonal skills influence the way history students' HOTS thinking understands local wisdom?

Based on the research questions, the following hypotheses are proposed:

- H₁: There is a significant influence of gender on the Higher Order Thinking Skills (HOTS) of history students in understanding local wisdom.
- H₂: There is a significant influence of interpersonal intelligence on the Higher Order Thinking Skills (HOTS) of history students in understanding local wisdom.

This article aims to explore the relationship between gender identity, interpersonal skills, and high-level thinking skills in history learning based on local wisdom as an effort to understand the broader socio-cultural context.

METHODOLOGY

This research uses a quantitative approach with descriptive statistical

methods (Nasution, 2017) to describe and analyze the influence of gender and interpersonal intelligence variables on the high-level thinking (HOTS) of history students in understanding local wisdom. The research instrument was designed to measure three main variables, namely gender, interpersonal intelligence, and HOTS ability, which includes aspects of analysis, evaluation, and creation. The results of the collected data were analyzed using descriptive statistical techniques, in the form of frequency distribution, percentages, and average value tendencies, to determine general patterns and relationships between the variables studied.

The population in this study was history students taking local wisdom courses. The sample was taken using purposive sampling (Sugiono, 2021), totaling 81 respondents consisting of male and female students with varying interpersonal skills backgrounds. The research instrument was designed to measure three main variables: gender, interpersonal intelligence, and Higher Order Thinking Skills (HOTS), which cover the aspects of analysis, evaluation, and creation. The collected data were analyzed using descriptive statistical techniques (Nasution, 2017), including frequency distribution, percentage, and mean value tendencies, to identify general patterns and relationships among the variables under study.

The population of this study consisted of history students taking the Local Wisdom course. Samples were selected through purposive sampling (Sugiono, 2021), totaling 81 respondents comprising male and female students with varying levels of interpersonal ability. Respondents were selected based on several criteria: (1) active students enrolled in the Local Wisdom course, (2) students who participated in all learning activities throughout the study, (3) students who completed the interpersonal intelligence instrument in full, and (4) students who took both the pre-test and

post-test for HOTS. These criteria were established to ensure all respondents had equivalent learning experiences, exposure to the course material, and research data, thereby providing a more accurate representation of the relationships between gender, interpersonal intelligence, and Higher Order Thinking Skills (HOTS) in understanding local wisdom.

The research instrument used in this study consisted of a closed questionnaire in the form of a Likert scale, tests, and observations designed to measure three main variables: gender, interpersonal intelligence, and the high-order thinking skills (HOTS) of history students in understanding local wisdom. The gender variable was identified as categorical data based on the respondent's sex, while interpersonal intelligence was measured through indicators such as communication skills, empathy, and cooperation in the academic social environment. Meanwhile, HOTS ability was measured through items that reflected the ability to analyze, synthesize, evaluate, and create based on the context of local wisdom. The data collection process in this study was carried out through three main techniques: a closed questionnaire, used to measure gender and interpersonal intelligence variables, with a Likert scale containing indicators related to social interaction skills, empathy, and cooperation.

Pre- and post-tests were used to measure students' HOTS abilities before and after engaging in local wisdom-based learning activities. In addition, observations were conducted during group discussions and student presentations to directly observe how students' interpersonal skills and critical thinking patterns were reflected in academic interactions. The data analysis process in this study was carried out using descriptive quantitative methods to interpret data from questionnaires, tests, and observations. Closed questionnaire data were analyzed using descriptive statistics

in the form of percentages, frequencies, and average values (mean) to describe the gender profile and level of interpersonal intelligence of students. Meanwhile, the results of pre- and post-tests were analyzed by comparing the average scores to see the increase in HOTS abilities, as well as calculating the score difference (gain score) as an indicator of the effectiveness of understanding local wisdom. Data from observations of discussions and presentations were analyzed using observation sheets with assessment rubrics, which included HOTS indicators (analysis, synthesis, evaluation, and creation) as well as aspects of interpersonal skills (communication, cooperation, and empathy). The results from the three instruments were then presented narratively and tabularly to provide a comprehensive picture of the relationship between gender, interpersonal intelligence, and the HOTS thinking of history students in understanding local wisdom.

The hypothesis testing process in this study was carried out to determine whether there was a significant influence between gender and interpersonal intelligence on the high-order thinking skills (HOTS) of history students in understanding local wisdom. Before testing, an assumption test was first carried out through a normality test to ensure that the data met the requirements for inferential analysis (Bhirawa, 2020). Next, hypothesis testing was conducted using the Mann-Whitney U non-parametric statistical test to identify differences in HOTS abilities based on gender, and simple linear regression analysis to examine the influence of interpersonal intelligence on HOTS. The results of the hypothesis test were determined based on the significance value (p-value) at a 95% confidence level ($\alpha = 0.05$). If the significance value is less than 0.05, then the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted, which means that there is a significant influence between the variables studied. The data presentation

process in this study was carried out systematically to facilitate the reading and interpretation of results. Data that has been collected through questionnaires, tests (pre-test and post-test), and observations, is compiled and presented in the form of tables, diagrams, and descriptive narratives. Questionnaire data related to gender and interpersonal intelligence is presented in the form of frequency distribution and percentages, to show the tendency of the respondent profile. The results of the pre-test and post-test of HOTS abilities are presented in the form of comparative tables and graphs to show an increase or difference in high-order thinking abilities. Meanwhile, observation data related to discussion and presentation activities is analyzed and presented in the form of observation score tables based on assessment rubrics, which include indicators of critical and interpersonal thinking skills. The data presentation is carried out sequentially according to the research variables, so that the relationship between variables can be seen comprehensively and structurally.

RESULT AND DISCUSSION

1. Descriptive Analysis of HOTS Ability Based on Gender

Descriptive analysis was conducted to obtain an initial overview of HOTS ability scores in both gender groups. HOTS scores were measured using post-test (UAS) scores after participating in local wisdom learning. The results of the descriptive analysis are presented in table 1.1 below:

Table 1. Descriptive Statistics of HOTS Scores Based on Gender

Gender	Number (N)	Mean	Standard Deviation	Minimum Score	Maximum Score
Male	34	81.00	4.299	72	88
Female	47	83.64	3.089	78	90
Total	81	-	-	-	-

Source: Research Data 2024

Based on Table 1, it is known that out of a total of 81 students, 47 of them (58.0%) are female and 34 (42.0%) are male. Descriptively, the average HOTS score of female students with (Mean = 83.64, Standard Deviation = 3.089) is higher than the average HOTS score of male students with (Mean = 81.00, Standard Deviation = 4.299).

Based on Table 1, it appears that female students (Mean=83.64; SD=3.089) have HOTS scores that are, on average, higher than those of male students (Mean=81.00; SD=4.299) after participating in local wisdom-based learning. The Gender Perspective (Eliza, 2020) views that differences in learning outcomes between males and females are not solely due to biological factors, but also to social constructs, learning experiences, and environmental expectations. In this context, female students may have a higher level of learning engagement, more consistent diligence, and a tendency to follow learning instructions in a structured manner, thus positively influencing HOTS achievement (Harmidsyukrie & Syarifuddin, 2022).

The score difference can be explained as a result of the interaction between the social construction of gender and HOTS cognitive processes. Female students who are socially encouraged to be thorough, diligent, and communicative may be more optimal in working on HOTS-based assignments that demand complex information processing on local wisdom material. To ensure whether this average difference is statistically significant, a hypothesis test is then conducted.

2. Hypothesis Testing of Differences in HOTS Ability Based on Gender

Hypothesis testing was conducted using the Independent Samples T-Test. This test aims to statistically prove

whether the difference in average HOTS scores between the groups of male and female students occurs significantly.

The hypothesis being tested is:

- H_0 : There is no significant difference in HOTS ability between male and female students.
- H_a : There is a significant difference in HOTS ability between male and female students.

Decision-making criteria:

- If the significance value (p-value) < 0.05, then H_0 is rejected and H_a is accepted.
- If the significance value (p-value) > 0.05, then H_a is rejected and H_0 is accepted.

The results of the T-Test are presented in Table 2:

Table 1
Results of Independent Samples T-Test for HOTS Scores

Variable	t-value	df	Sig. (2-tailed)	Mean Difference	Description
HOTS Score	-3.216	79	0.002	-2.638	Significant

Source: Research Data 2024

The analysis results in Table 2 show that the significance value (Sig. 2-tailed) is 0.002. Because the value 0.002 < 0.05 or is smaller than the established significance level, which is ($\alpha = 0.05$), then H_0 is rejected and H_a is accepted.

Based on the results of the statistical analysis, there is an influence of gender on HOTS (critical) thinking in history students in local wisdom learning. Because there is a significant difference in higher-order thinking skills (HOTS) between male and female students, it can be concluded that gender has an influence on higher-order thinking skills (HOTS) in History Education students. Specifically, in this study, female students showed significantly higher HOTS

abilities than male students. This finding is in line with the opinion of Sari (2020).

Based on the results of the Independent Samples T-Test, a Sig. (2-tailed) value of 0.002 (< 0.05) was obtained, which means that there is a significant difference in the average HOTS scores between male and female students. The mean difference value of -2.638 indicates that the average score of women is higher than that of men.

Interpretation from a Gender Perspective (MZ, 2013), explains that differences in academic achievement are not only influenced by innate cognitive abilities but also by social and cultural constructs that shape students' learning patterns, motivation, and interactions. In the context of local wisdom-based learning, women tend to show higher emotional and social engagement. Values often attached to women's gender roles, such as persistence, attention to detail, and patience, can support higher-order thinking processes that require in-depth analysis, critical evaluation, and the ability to connect concepts with socio-cultural contexts. Conversely, men may have a wider variation in learning strategies, as seen from the higher standard deviation of their scores in the descriptive analysis, but on average their HOTS achievement is lower than women's.

Relating to the HOTS concept according to (Sari & Hindun, 2020), HOTS requires analysis, synthesis, and evaluation skills that not only depend on factual knowledge but also on the ability to relate knowledge to reality. Local wisdom-based learning provides a real context rich in social, cultural, and historical values. Female students, based on a gender perspective, are often more responsive to these socio-cultural contexts, thereby significantly encouraging the improvement of HOTS. The significant t-test results support the assumption that a learning context that aligns with specific interests, learning styles, and value orientations can produce differences in achievement based on gender.

Theoretically, these findings reinforce the view that gender differences can influence how students process information and develop higher-order thinking skills, especially in contextual learning. Practically, educators can use these results to design teaching strategies that can bridge gender differences, for example by integrating collaborative approaches, critical discussions, and context-based problem-solving that is relevant to all students.

There is a difference in HOTS abilities between male and female students in local wisdom learning. Based on the results of the analysis, the decision criterion obtained is that H_0 is rejected and H_a is accepted. Therefore, it can be concluded that there is a statistically significant difference in higher-order thinking skills (HOTS) between male and female students in local wisdom learning.

The results of the data analysis indicate a significant influence of gender on higher-order thinking skills (HOTS), particularly in the critical thinking aspect of history students in local wisdom learning. Female students tend to show higher accuracy in analyzing historical sources, especially those related to local wisdom narratives, such as oral traditions, customary law, and cultural practices.

Meanwhile, male students are more prominent in their ability to evaluate arguments and construct a synthesis of information across sources. This finding is in line with the concept of doing gender (Zimmerman & West, 1987) which asserts that gender identity influences interaction patterns and cognitive strategies used in academic activities.

This difference cannot be seen as an absolute advantage of one gender over another, but rather as a tendency formed through social processes and learning experiences (Anisya & Fitriah, 2024). In the context of local wisdom-based history learning, the critical thinking skills of students—both female and male—appear to develop when they are involved in group discussions, presentations, and case

studies that require them to compare cultural perspectives and interpret historical evidence creatively. This is in line with Bloom's revised taxonomy (Krathwohl, 2002) which places analysis, evaluation, and creation as the main indicators of HOTS, where gender factors can influence how students process and articulate their understanding.

3.Descriptive Analysis for Interpersonal Intelligence

Descriptive analysis and the Independent Samples T-Test were conducted to obtain an initial overview of the differences in interpersonal intelligence between male and female students in understanding local wisdom learning. The results of the descriptive analysis are presented in table 3 below:

Table 2
Descriptive Statistics of Interpersonal Scores

Variable	Gender	Number (N)	Mean	Standard Deviation
Interpersonal Scores	Male	34	49.41	4.391
	Female	47	50.43	4.231

Source: Research Data 2024

Based on Table 3, descriptively, the average interpersonal intelligence score for female students is higher than that of male students. To prove the significance of this difference, a T-Test was conducted.

The hypothesis test was conducted using the Independent Samples T-Test. This test aims to prove statistically whether the difference in interpersonal intelligence between groups of male and female students occurs significantly.

The Hypothesis being tested is:

- H_0 : There is no significant difference in interpersonal intelligence between male and female students.
- H_a : There is a significant difference in interpersonal intelligence between male and female students.

The analysis results in table 3 show that:

- For Interpersonal Intelligence, the significance value (Sig. 2-tailed) is

0.298. Because this value is greater than the significance level of 0.05 ($p > 0.05$), it can be concluded that there is no statistically significant difference in interpersonal intelligence between male and female students.

Based on Table 3, descriptively, female students have an average interpersonal intelligence score of 50.43 (SD = 4.231), slightly higher than male students who have an average score of 49.41 (SD = 4.391). This difference was then tested using the Independent Samples T-Test to determine its significance.

From an Interpersonal Intelligence perspective, according to the Multiple Intelligences theory developed by Howard Gardner (Gardner, 1999), interpersonal intelligence is the ability to understand, interact, and build effective relationships with others. This intelligence includes empathy, the ability to read other people's emotions, effective communication, and sensitivity to social dynamics. In an educational context, interpersonal intelligence plays a very important role in collaborative learning, group discussions, and project-based activities, because students who have high interpersonal scores find it easier to work together and utilize team strengths.

From a Gender Perspective, differences in social behavior between men and women are seen as a result of social construction, not just biological factors. In many cultures, women are encouraged from an early age to have communication skills, empathy, and to nurture social relationships. This socialization pattern reinforces interpersonal skills that are relevant in academic environments. Men tend to be socialized to be more independent and competitive, which, while having certain advantages, sometimes gives less emphasis to interpersonal relationship aspects in learning.

Interpretation of T-Test Results: If the test results show p -value < 0.05 , then this difference in means can be declared

statistically significant. If significant, then this finding supports the theory that gender differences in interpersonal intelligence are not coincidental, but rooted in differences in social interaction patterns, communication styles, and collaborative motivations that are formed early in life. If not significant, then even though women descriptively have a slightly higher average, individual variation within the group is greater than the difference between genders themselves.

Table 4. Independent Samples T-Test Results for Interpersonal Intelligence

Variable	t-value	df	Sig. (2-tailed)	Mean Difference	Description
Interpersonal Scores	-1.048	79	0.298	-1.014	Not Significant

Source: Research Data 2024

Based on the results of the statistical analysis, there is no statistically significant difference in interpersonal intelligence between male and female students in understanding local wisdom learning.

The results of the difference test show that the significance value (Sig. 2-tailed) for interpersonal intelligence is **0.298**, which is greater than the significance level of 0.05 ($p > 0.05$). This indicates that there is no statistically significant difference in interpersonal intelligence between male and female students. In other words, the ability to build social relationships, communicate effectively, and work together in groups is relatively equal in both gender groups.

This finding is in line with Gardner's (1993) view in the Multiple Intelligences Theory, which states that interpersonal intelligence develops through social interaction and learning experiences, rather than being determined solely by biological factors or gender. This equality serves as an important foundation for creating a learning process that requires collaboration, discussion, and exchange of ideas to hone skills of analysis, evaluation, and creation.

In the context of history learning that focuses on local wisdom, the equality of interpersonal intelligence between male and female students allows for the creation of effective group work. Students can jointly analyze historical sources, evaluate cultural meanings, and create new, inclusive interpretations, without significant obstacles due to gender differences. This supports the achievement of history education goals that not only master facts, but are also able to think critically, creatively, and collaboratively according to the characteristics of HOTS.

4. Description analysis to see if interpersonal intelligence affects HOTS abilities in History Education students

Multiple linear regression analysis was performed to prove the above question:

Table 5
Regression Results of Interpersonal Intelligence Affecting HOTS Ability

Model	Unstandardized Coefficients (B)	t	Sig.
(Constant)	74.074	14.796	0.000
Interpersonal Scores	0.174	0.195	0.974

Source: Research Data 2024

Based on table 5 above, it was found that the significance value for the interpersonal score is 0.974, which is greater than the significance level that has been set, which is 0.05. Therefore, it can be concluded that interpersonal intelligence does not significantly affect HOTS abilities. Based on regression analysis, neither type of intelligence was proven to be a significant predictor of students' higher-order thinking skills.

The findings of this study differ from several previous studies that indicate a positive relationship between interpersonal intelligence and HOTS. Earlier research explains that individuals with good interpersonal intelligence tend to be more active in discussions, collaboration, and joint problem-solving, thereby potentially supporting the

development of critical thinking as a component of HOTS. However, the results of this study prove that interpersonal intelligence is not always accompanied by high-level HOTS. The abilities to communicate, empathize, and build good social relationships do not necessarily go hand in hand with the ability to analyze, evaluate, and construct in-depth interpretations of historical material and local wisdom. Accordingly, HOTS appears to be influenced by more complex factors, such as cognitive strategies, depth of historical understanding, reflective ability, and the capacity to develop evidence-based arguments.

Nevertheless, the insignificant influence of interpersonal intelligence on HOTS does not mean that interpersonal intelligence loses its relevance in the learning process. Interpersonal intelligence remains an important asset for students because it supports the creation of productive academic interactions, exchange of perspectives, cooperation, and active participation in discussions during history learning. Therefore, interpersonal intelligence is more appropriately viewed as a supporting factor that provides conducive social conditions for the development of HOTS, rather than a factor that directly determines HOTS achievement. This finding is consistent with research results showing that male and female students have relatively equal levels of interpersonal intelligence, yet achieve different levels of HOTS performance, which means that social ability alone is insufficient to explain variations in students' higher order thinking skills.

Normality test is a test conducted with the aim of assessing the distribution of data in a group of data or variables, whether the data distribution is normally distributed or not (Faymezan et al., 2018). The Normality test is useful for determining whether the data that has been collected is normally distributed or taken from a normal population. The classical method in testing the normality of

a data is not so complicated. Based on the empirical experience of several statisticians, data that is more than 30 numbers ($n > 30$), then it can be assumed to be normally distributed. Usually referred to as a large sample.

However, to ensure whether the data is normally distributed or not, it is best to use a normality test. Because it is not certain that data with more than 30 can be confirmed to be normally distributed, and vice versa, data with less than 30 is not necessarily not normally distributed, so proof is needed. Therefore, a normality test will be carried out on pre-test and post-test data, intrapersonal intelligence data, and interpersonal intelligence data based on social awareness and social facilities.

Normality test of pre-test and post-test data in table 6 will be carried out using SPSS. The following is a table of normality test of pre-test and post-test data of history students:

Table 6.
Normality Test of Pre-Test and Post-Test Data of History Students

Variable	Gender	N	Mean	Median	Std. Deviation	Statistic	Sign.
Pre-Test	Male	34	12.50	10.00	5.401	0.881	0.01
	Female	47	13.02	14.00	5.359	0.907	0.01
Post-Test	Male	34	81.00	82.00	4.299	0.903	0.006
	Female	47	83.64	84.00	3.089	0.897	< 0.01

Source: Research Data 2024

Analysis of table 6 of the normality test results of pre-test and post-test data. This normality test uses the Shapiro-Wilk test because it has a data amount of <50. The criteria for testing the normality of the data are as follows:

- If significance > 0.05, then the data is normally distributed

- If significance < 0.05 , then the data is not normally distributed

Based on table 6 of the normality test results of pre-test and post-test data, it was found that the significance value of pre-test data between male and female students is 0.01, which is smaller than the significance level value of 0.05, so it can be seen that the pre-test data between male and female students is not normally distributed. Then, the significance values of post-test data between male and female students are 0.006 and < 0.01 , respectively, which are smaller than the significance level value of 0.05, so it can be seen that the post-test data between male and female students is not normally distributed.

Next, a normality test of interpersonal intelligence data based on social awareness and social facilities in table 7 will be carried out using SPSS. The following is a table of normality test of interpersonal intelligence data based on social awareness and social facilities of history students:

Table 7
Normality Test of Interpersonal Intelligence Data Based on Social Awareness and Social Facilities

Variable	Gender	N	Statistic	Sig.
Empathy	Male	34	0.606	< 0.001
	Female	47	0.617	< 0.001
Perspective-Taking	Male	34	0.255	< 0.001
	Female	47	0.356	< 0.001
Self-awareness	Male	34	0.591	< 0.001
	Female	47	0.633	< 0.001
Building Relationships	Male	34	0.590	< 0.001
	Female	47	0.732	< 0.001
Ability to Read Body Language	Male	34	0.626	< 0.001
	Female	47	0.637	< 0.001
Social Sensitivity	Male	34	0.638	< 0.001
	Female	47	0.609	< 0.001
Social Skills	Male	34	0.552	< 0.001
	Female	47	0.644	< 0.001
Ability to Recognize Other People's Emotions	Male	34	0.629	< 0.001
	Female	47	0.662	< 0.001
Building Networks	Male	34	0.606	< 0.001
	Female	47	0.617	< 0.001
Managing Relationships	Male	34	0.255	< 0.001
	Female	47	0.356	< 0.001
Utilizing Social Resources	Male	34	0.591	< 0.001
	Female	47	0.633	< 0.001
Collaboration and Cooperation	Male	34	0.590	< 0.001
	Female	47	0.732	< 0.001
Negotiation and Influence	Male	34	0.626	< 0.001
	Female	47	0.637	< 0.001

Social Leadership	Male	34	0.638	< 0.001
	Female	47	0.609	< 0.001
Using Networks to Get Information	Male	34	0.552	< 0.001
	Female	47	0.644	< 0.001
Mediation and Conflict Resolution	Male	34	0.629	< 0.001
	Female	47	0.662	< 0.001

Source: Research Data 2024

The results of the normality test of interpersonal intelligence data based on social awareness and social facilities of history students. This normality test uses the Shapiro-Wilk test because it has a data amount of < 50 . The criteria for testing the normality of the data are as follows:

- If significance > 0.05 , then the data is normally distributed
- If significance < 0.05 , then the data is not normally distributed

Based on table 7, the results of the normality test of interpersonal intelligence data based on social awareness and social facilities of history students, it was found that the significance value of interpersonal intelligence data based on social awareness and social facilities between male and female students is < 0.001 , which is smaller than the significance level value of 0.05, so it can be seen that intrapersonal intelligence data between male and female students is not normally distributed. Because the data to be tested is not normally distributed, a non-parametric test will be carried out using the Mann Whitney test.

The Mann Whitney test is a test used to examine differences, averages, or medians between 2 groups of data (Cantica et al., 2023). The Mann-Whitney test is used in the comparison test of two unrelated samples or independent samples (Mubarok et al., 2021). The Mann Whitney test refers to the null hypothesis which states that there is no real difference between the two groups of data and where the data is taken from unrelated samples. In this study, the Mann Whitney test was used to test the differences or influences of several data, namely pre-test and post-test data, intrapersonal intelligence data,

interpersonal intelligence based on social awareness and social facilities on higher-order thinking skills (HOTS). A Mann Whitney test will be carried out regarding the influence of gender on the higher-order thinking skills (HOTS) of history students in local wisdom learning. The hypothesis criteria are as follows:

- H_0 : There is no significant influence on HOTS abilities between male and female students.
- H_a : There is a significant influence on HOTS abilities between male and female students.

Here is the Mann Whitney test result table of the influence of gender on higher-order thinking skills (HOTS).

Table 8. Result of Gender's Influence on Higher Order Thinking Skills (HOTS) Score

	Higher Order Thinking Skills Score (HOTS)
Mann-Whitney U	538.000
Wilcoxon W	1133.000
Z	-2.560
Asymp. Sig. (2-tailed)	0.010

Source: Research Data 2024

Decision making criteria:

- If the Asymp. Sig. (2-tailed) value > 0.05 , then H_0 is accepted
- If the Asymp. Sig. (2-tailed) value < 0.05 , then H_0 is rejected and H_a is accepted

Based on table 8, the results of the influence of gender on higher-order thinking skills (HOTS) scores show that the Asymp. Sig. (2-tailed) value is less than the significance level, which is $0.010 < 0.05$, so based on the decision-making criteria, it is stated that H_0 is rejected and H_a is accepted. Thus, it can be concluded that there is a significant influence on HOTS abilities between male and female students. This is consistent with the data presented in Table 1, which shows that of the total 81 students, 47 (58.0%) were female and 34 (42.0%) were male. Descriptively, the average HOTS score of female students (Mean = 83.64, Standard

Deviation = 3.089) was higher than that of male students (Mean = 81.00, Standard Deviation = 4.299). Accordingly, it can be concluded that there are differences in Higher Order Thinking Skills (HOTS) between male and female students in learning local wisdom.

5. Descriptive Analysis of HOTS Scores Based on Gender

The minimum and maximum scores for male students are **72** and **88**, respectively, while for female students, they are **78** and **90**, respectively. This indicates that the range of HOTS scores for female students is slightly higher and more homogeneous (smaller standard deviation) compared to male students, who have a wider distribution of scores.

Descriptively, female students show a **higher** average HOTS score compared to male students. This difference indicates that, in the context of local wisdom learning, female students tend to have better higher-order thinking skills, particularly in aspects of analysis, evaluation, and creation as described by Krathwohl (Krathwohl, 2002) in Bloom's revised taxonomy.

If linked to the theory of doing gender (Zimmerman & West, 1987), this difference may be influenced by variations in learning styles and cognitive strategies formed through social interactions and expectations of gender roles in the academic environment. Female students, in this context, may be more involved in discussions, pay attention to detail, and integrate cultural perspectives in interpreting local wisdom, thus contributing to higher HOTS scores.

Next, the Mann-Whitney test will be used to see the difference in intelligence, interpersonal intelligence based on social awareness and social facilities, between male and female students in understanding local wisdom learning. The hypothesis criteria are as follows:

- H_0 : There is no significant difference in interpersonal intelligence based on social awareness and social

facilities between male and female students in understanding local wisdom learning.

- H_a : There is a significant difference in interpersonal intelligence based on social awareness and social facilities between male and female students in understanding local wisdom learning.

Here is the table of Mann-Whitney test results of the difference in intrapersonal intelligence, interpersonal intelligence based on social awareness and social facilities, between male and female students in understanding local wisdom learning.

Table 9. Results of Differences in Interpersonal Intelligence Based on Social Awareness and Social Facilities with Respect to Gender

	Interpersonal Intelligence Based on Social Awareness	Interpersonal Intelligence Based on Social Facilities
Mann-Whitney U	683.500	683.500
Wilcoxon W	1278.500	1278.500
Z	-1.117	-1.117
Asymp. Sig. (2-tailed)	.264	.264

Source: Research Data 2024

Decision making criteria:

- If the Asymp. Sig. (2-tailed) value > 0.05 , then H_0 is accepted
- If the Asymp. Sig. (2-tailed) value < 0.05 , then H_0 is rejected and H_a is accepted

Based on table 11, the results of differences in interpersonal intelligence based on social awareness and social facilities with respect to gender, it was found that the Asymp Sig. (2-tailed) value of interpersonal intelligence is $>$ than the significance level, which are $0.250 > 0.05$ and $0.264 > 0.05$ respectively, so based on the decision-making criteria, it is stated that H_0 is accepted. Thus, it can be concluded that there is no significant difference in interpersonal intelligence based on social awareness and social facilities between male and female

students in understanding local wisdom learning.

CONCLUSION

This study shows that gender has a significant influence on the Higher Order Thinking Skills (HOTS) of history students in understanding local wisdom. Female students achieved higher HOTS scores compared to male students, particularly in the aspects of analysis, evaluation, and creation. In contrast, interpersonal intelligence showed no significant difference between male and female students, meaning that the ability to communicate, cooperate, and build social relationships was relatively equal in both groups. These findings indicate that the observed differences in HOTS are not caused by gaps in interpersonal intelligence, but are likely influenced by differences in learning strategies, social experiences, and ways of processing information within history learning based on local wisdom. Based on these findings, the main recommendation of this study is to strengthen cross-gender collaborative learning strategies in history education. The equality of interpersonal intelligence between male and female students serves as an important foundation for building productive academic interactions through discussions, group work, case studies, and problem-solving activities rooted in local wisdom. Cross-gender collaboration is expected to optimize the strengths of each group, enrich the exchange of perspectives, and improve students' higher order thinking skills in a more balanced manner. Future research is recommended to employ qualitative approaches to explore the cognitive, socio-cultural, and learning factors that may explain why male and female students demonstrate different HOTS achievements despite having relatively similar levels of interpersonal intelligence.

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