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Integrating Malay Culture Values in Digital Education: A Qur'anic Approach

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Abstract: This study proposes a Qur'anic approach to integrating Malay cultural values into digital education. By aligning core Malay values such as obedient, customary, knowledgeable, deliberative and creative with Islamic principles from the Qur'an. The research offers a framework for nurturing ethical, culturally aware learners in digital environments. The approach emphasizes the harmonious blend of spiritual guidance and cultural heritage, aiming to produce students who are not only digitally proficient but also morally grounded and culturally rooted. The rapid evolution of digital education presents both opportunities and challenges for preserving cultural identity and instilling moral values in learners. This study explores the integration of Malay cultural values within digital educational platforms through a Qur'anic approach. this study proposes a conceptual framework that harmonizes traditional Malay heritage with Islamic teachings as outlined in the Qur'an. The framework aims to cultivate students' moral, cultural awareness, and ethical reasoning in a technologically driven learning environment. Using qualitative content analysis and design-based research. The result concludes that integrating malay culture values in digital education is effective to build the character in digital era. This study highlights how embedding Qur'anic values into digital learning content not only enhances cultural relevance but also reinforces spiritual.

Keywords: Malay Culture Values, Digital Education and Qur'anic approach

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A. INTRODUCTION

Improving student learning outcomes is the main goal in the field of education. To achieve this goal, it is necessary to understand several factors that affect learning outcomes and various models that can be applied. One of the factors that can improve student learning outcomes is the application of a suitable learning model. According to the theory of constructivism, learning is carried out by actively building knowledge through direct experience and reflection on those experiences (Jin et al., 2020; Sayaf, 2023). In elementary school learning, teachers can provide opportunities for students to conduct their experiments or research to create new knowledge. Meanwhile, Constructivism, according to Vygotsky's view, culture also provides a lens through which to view and interpret experiences in ways appropriate to their culture (Marzal et al., 2021; Vygotsky, 1978). Meanwhile, according to Vygotsky's cognitive theory, learning is carried out by forming a new knowledge structure and associating it with pre-existing knowledge (Vygotsky, 1978).

Integrating culture into the educational process is believed to be able to help achieve learning goals. Culture-based learning is a strategy for creating a learning environment and designing learning experiences that integrate culture as part of the learning process (Marzal et al., 2021; Samo & Kartasasmita, 2018; Setyawan & Dopo, 2020). However, learning in elementary schools, especially in the Langkat district, has not integrated culture into the learning process. Many noble cultural values can be integrated into the learning process. The

application of the Contextual Teaching and Learning model integrated with culture can improve problem-solving skills (Nurjehan, 2017) (Mulyono, 2018; Priyadi & Yumiati, 2021; Sung et al., 2022) and can make humans think and understand how to adapt to society by behaving and doing to meet their life needs in a good society (Ningrum & Murti, 2023; Samo, 2019; Sekarini & Arty, 2019).

The Contextual Teaching and Learning model, in its application, integrates learning materials with the immediate environment to make it easier for students to understand and achieve learning objectives (Hudson & Whisler, 2013; Thamrin et al., 2024). The Contextual Teaching and Learning model aims to enable students to build their knowledge and connect and apply knowledge in their real-life context (Selvianiresa & Prabawanto, 2017; Thamrin et al., 2024). The application of the Contextual Teaching and Learning model that has been carried out in research effective in improving learning outcomes, higher-order thinking skills, creative thinking, learning independence, and problem-solving skills (Bustami et al., 2018; Hasanah & Retnawati, 2022; Sekarini & Arty, 2019; Thamrin et al., 2024). However, the research carried out in applying the Contextual Teaching and Learning model in improving higher-order thinking skills has not integrated cultural values. Meanwhile, Vygotsky argues that culture influences knowledge formation, including higher-order thinking skills.

Culture is an essential part of children's education. The noble values of local culture can be integrated into the learning process. Integrating culture into the learning process is believed to be a catalyst for achieving learning goals. Learning by utilizing and integrating the noble values of local culture will help achieve educational goals. The development of cultural values and local wisdom in research on education development for local content subjects has been effectively implemented in Schools (Samo & Kartasasmita, 2018; Selvianiresa & Prabawanto, 2017). However, the research development has not integrated the Contextual Teaching and Learning model with cultural values or local wisdom, such as Malay culture in Langkat Regency.

The Contextual Teaching and Learning model is very familiar in elementary to higher education. This model can encourage students to work together, collaborate and share ideas that can improve higher-order thinking skills. The Contextual Teaching and Learning model can enhance higher-order thinking skills, which is needed in the 21st century (Ningrum & Murti, 2023; Ogodo, 2024; Sari & Nada, 2022). Higher-order thinking skills can improve students' ability to compete at a higher order and prepare students to compete in the future (Ichsan et al., 2019; Liline et al., 2024). However, the improvement in student learning outcomes, especially higher-order thinking skills, is still not significant. Existing research has also not integrated cultural values into the learning process to improve student's skills needed in the 21st century.

According to the Ministry of Education and Culture of the Republic of Indonesia, 40% of students have difficulty answering questions that require reasoning and the ability to think at a higher order (HOTS) in the National Exam activities that took place in 2018. Several studies and studies affect HOTS, including classroom environment, family characteristics, psychological characteristics, and intelligence. Research on higher-order thinking skills has also been conducted in various countries, including China, Malaysia and Indonesia. The results of previous research stated that higher-order thinking skills require teachers' hard work in the learning process in the classroom. The knowledge gained from the higher-order thinking process will be easier to apply to solve problems in daily life (Lu et al., 2021; Pohan & Amin, 2022). Learning will be more meaningful if students are invited to think at a higher order. Higher-order thinking skills will strengthen students' minds and guide them in generating more alternatives, actions, and ideas (Sari & Nada, 2022b; Toledo & Dubas, 2016). To improve students' higher-order thinking skills (HOTS), educators have an essential role in

making students at that order. Therefore, higher-order thinking skills must continue to be considered and improved in the learning process in the classroom.

Higher-Order Thinking Skills (HOTS) are one of the six elements of student aspirations in the Malaysia Education Blueprint (MEB) 2013-2025. A teacher must prepare before carrying out lessons involving HOTS to avoid class disorganization. In addition, teachers' teaching methods also hinder the implementation of HOTS. Teacher readiness is essential in implementing HOTS in the classroom. The problem is not only for teachers in Indonesia but in several countries, where in 2005-2006, as many as 86% of teachers in Abu Dhabi were still measuring memory skills. This figure shows that teachers must improve their ability to create higher-order thinking skills (Broman et al., 2018; Insani et al., 2019). According to Kahar et al. (2021), many educators do not implement innovation due to a lack of creativity, which affects their competence.

B. METHOD

The research used a RND Plomp and pre-experimental design method with a one-group pretest and posttest design. The research subjects were determined using a cluster random sampling technique. The instruments used in this study were Malay culture-based CTL worksheets and questions used for pretest and posttest. Data analysis was done by calculating normal distribution and t-testing with t-count> t-table. The improvement of learning outcomes is determined by the N-Gain Score. The conclusion was drawn based on the criteria for improvement from the N-Gain score results obtained from the pretest and posttest results after applying the model. Development Research using the R&D Plomp model consists of five phases or five stages, namely: the *prelimenary investigation phase*, the design phase, the -*realization/construc-tion phase*, and the test, evaluation and revision phase, and implementation *phase*.

1. Phase 1 *(Preliminary Investigation)*

Prelimanary investigation can also be referred to as *needs analysis* or *problem analysis*. Plomp and van de wolde mention that:

> *"In this investigation important elements are the gathering and analysis of information, the definition of the problem and the planning of the possible continuation of the project".*

At this stage, the researcher collects and analyzes information related to needs analysis. As for the *preliminary investigation* stage, it is focused on two objects, namely learning models and learning tools.

2. Phase 2 *(Design)*

At this stage, the researcher designed a *prototype* product in the form of *a Contextual Teaching and Learning learning model* based on the noble values of Malay culture consisting of syntax, social system, reaction principle, support system and learning impact. The development of the learning model design is based on theoretical studies that have been carried out in the previous stages, namely based on Vygotsky's theory, Bruner's theory, ecological theory and Koentjaraningrat cultural theory.

3. Phase 3 *(Realization/Construction)*

In this phase, the basic shape of the product is produced as a result of the realization of the design phase. At this stage, the product will produce *a Prototype I* product that will be validated and given an assessment to the validators.

4. Phase 4 ***(Test, Evaluation and Revision)***

A product for the solution of the problem solving developed must be tested and evaluated in the implementation of teaching practice. Evaluation is a process of systematically collecting data/information to obtain the realization value of the problem solving developed. Based on the data collected, it can be determined which solutions are satisfactory and which still need to be revised in their development.

5. Phase 5 (*Implementation)*

After evaluation and obtaining a valid, practical and effective product, the development product will be implemented on students in other elementary schools in Langkat district. If the results of the product implementation are practical and effective, then the product can be implemented for a wider area. Plomp stated "*solution have to be introduced, in other words, have to be implemented.*"

C. RESULTS AND DISCUSSION

Table 1. Summary of Research Findings and Insights

CTL Research for HOTS	Insights	Conclusions	Research Gap	Contributions	Summarized Abstract
Improve High Order Thinking Students through Contextual Teaching Learning Based on Cognitive Distance.	Contextual Teaching and Learning effectively improves higher order thinking skills by activating previous knowledge, acquiring and understanding new concepts, applying knowledge, and reflecting on learning.	CTL is effective for developing history and culture learning programs. CTL improves students' learning achievement, motivation, and self-regulation.	Teachers focus on factual knowledge, not student-centered learning. The scoring system is based on a low-level cognitive ability test.	CTL effectively develops Higher Level Thinking learners. Increasing student motivation and self-regulation of learning.	CTL based on Cognitive Distance improves students in High Order Thinking. The CTL model is effective in developing history and culture learning programs.
Application of Contextual Teaching and Learning Model to Improve Disposition and Creative Thinking Skills of High School Students	The Contextual Teaching and Learning (CTL) model enhances higher-order thinking skills, especially creative thinking, by actively engaging students in learning,	The CTL model improves students' creative disposition and thinking skills. Significant growth in collaboration and fluency aspects was observed.	Lack of research on creative disposition in biology subjects. Limited studies on students' creative dispositions and CTL models.	Improves students' creative disposition and thinking skills. Provide information on effective teaching methods.	The CTL model improves students' creative disposition and thinking skills. Quasi-experimental design with pre-test and post-test control groups.

	allowing them to relate material to real-life situations, and fostering skills such as fluency and flexibility in the thought process.

Based on Table 1, it can be seen that Contextual teaching and learning (CTL) has emerged as an effective pedagogical approach to improving Higher Level Thinking Skills (HOTS) among students. By integrating real-life contexts into the learning process, CTL encourages students to engage critically with the material, encouraging deeper understanding and application of knowledge. This method not only motivates students but also significantly improves their cognitive abilities, as evidenced by various studies.

Malay Cultural Values based on the Qur'an to improve Higher Thinking Skills, as follows.

1. The value of obedience

The value of obedience, the value of obedience is a moral and ethical concept that refers to obedience and respect for rules, laws, order, authority, and norms that apply in a social system or society. The value of obedience emphasizes the importance of individual awareness to follow rules and actions that are considered correct and in accordance with the values accepted by the community or the authorized institution. The value of obedience involves obedience to legal rules and social norms, as well as respect for existing authority and order. This can include adherence to rules in the work environment, school, family, religion, or country. The value of obedience involves a commitment to following the rules honestly, consistently, and responsibly. The importance of obedience in a society is to maintain order, justice, and stability. By respecting and applying the value of obedience, individuals can contribute to the development of a better and harmonious society. The value of obedience also helps prevent conflict, create security, and promote justice in social interactions.

The Qur'an discusses obedience in many letters, one of which is Surah An-Nisa' (Surah 4) - Verse 59:

"O you who believe, obey Allah, obey the Messenger (Muhammad), and ulil amri among you. Then if you have a disagreement on something, then return it to Allah (the Qur'an) and the Messenger (the Sunnah), if you really believe in Allah and the next day. That is more important (for you) and better the result."

2. The Value of Knowledge

The Value of Knowledge, refers to the importance of having in-depth knowledge and expertise in a certain field, as well as appreciating and practicing values related to the development and application of science. The value of knowledge involves attitudes and behaviors that are based on academic principles and intellectual ethics.

The Qur'an discusses the importance of the value of knowledge, namely Surah Al-'Alaq (Surah 96). This letter emphasizes the value and importance of knowledge as well as the constant effort to seek knowledge. Surah Al-'Alaq (Surah 96) - Verses 1-5:

> "*Iqra' Bismi Rabbika Alladhi Khalaq (1); Khalaqa al-insana min 'alaq (2); Iqra' wa rabbuka al-akram (3); Allathi 'Allama Bhil-Kalam (4); 'Allama al-insana ma lam ya'lam (5)*"
> "Read by (saying) the name of your Lord who created (1); He created a human being from a clot of blood (2); Read, and your Lord is the Most Merciful (3); Who teaches (humans) through the medium of kalam (4); Teach man what he does not know (5)"

These verses are the first verses that were revealed to the Prophet Muhammad (Sallallahu 'alayhi wa sallam) as a command to read and seek knowledge. Surah Al-'Alaq underlines the importance of knowledge and shows that Allah is the source of knowledge that teaches man what he did not know before. These verses also emphasize the importance of self-awareness and recognition that humans are creatures with limited knowledge. Therefore, humans must continue to learn, develop their knowledge, and appreciate the value of knowledge in an effort towards personal and societal progress.

Surah Al-'Alaq provides direct motivation and command to Muslims to value, seek, and expand their knowledge through reading, studying, and reflecting. This provides the basis for the importance of education and intellectual development in Islamic teachings.

3. Customary Values

Customary Values, referring to the norms and traditions held by a group of people in daily life. Traditional values reflect behaviors, customs, habits, and ethics that are respected and accepted by the members of the community.

The Qur'an discusses the importance of customary values as follows:

a. Surah Al-Hujurat (Surah 49) - Verse 13:

> "O man, indeed We created you from a man and a woman, and made you into nations and tribes, so that you may know one another. Indeed, the noblest among you in the sight of Allah is the most devout among you. Indeed, Allah is All-Knowing, All-Knowing."

This verse emphasizes the importance of knowing each other, respecting each other, and respecting cultural and ethnic differences in society. This shows the importance of understanding and maintaining harmonious relations between tribes, nations, and ethnicities in customs.

b. Surah Al-Hujurat (Surah 49) - Verse 10:

> "Indeed, the believers are brothers, so make peace between your two brothers and fear Allah so that you may have mercy."

This verse emphasizes the importance of brotherhood and peace among fellow Muslims. This reflects the importance of maintaining harmonious social relations,

overcoming differences, and resolving conflicts with mutual understanding and tolerance in customary life.

4. Deliberation Value

Deliberation value is the process of decision-making or policy-making through discussions, negotiations, and joint meetings between the parties involved. The value of deliberation involves respecting the opinions and perspectives of each individual or group, considering various points of view, and seeking consensus or mutual agreement.

Surah Ali Imran (Surah 3) in the Qur'an mentions the importance of deliberation in the context of consultation and decision-making. Surah Ali Imran (Surah 3) - Verse 159:

> "And it is by the mercy of Allah that you are gentle with them. If you are harsh and rude-hearted, of course they will distance themselves from your surroundings. Therefor forgive them, ask for forgiveness for them, and counsel with them in the matter. Then when you have made up your mind, then put your trust in Allah. Indeed, Allah loves those who put their trust in Him."

This verse emphasizes the importance of being gentle, forgiving, and trying to deliberate with others in dealing with differences of opinion and making decisions. This illustrates the principle of mutual respect and building strong cooperation in the deliberation process.

5. Creative Value

Creative Value, refers to a person's ability to produce new ideas, concepts, or works that are original and innovative. Creativity involves the ability to think unconventionally, solve problems in unique ways, and come up with new and original solutions.

The following Qur'an discusses the creative values that must be possessed, which are as follows:

a. Surah Al-Baqarah (Surah 2) - Verse 164:

> "Indeed, in the heavens and on the earth there are signs (of Allah's greatness) for the wise."

This verse shows the importance of using reason and thinking to observe and appreciate the signs of God's greatness in the universe. It invites humans to develop their understanding of His creation and arouse creativity in appreciating the beauty and complexity of His creation.

b. Surah Jonah (Surah 10) - Verse 101:

> "Say: "The view cannot know of supernatural events, and they cannot know when they will be resurrected."

This verse underscores the limitations of human knowledge and arouses admiration for the ignorance that exists in life. This can be a trigger for creative thinking, asking questions, and seeking new understanding.

Improvement of students' higher-order thinking skills results using N-gain scores obtained based on pretests and posttests, as follows in Table 2.

Table 2. Average N-Gain Score in each trial

	Average N-Gain Score	Description
I	0,58	Currently
II	0,73	Highly
III	0,74	Highly

Based on the results of the research that has been carried out, it can be concluded that there is an improvement in students' higher-order thinking skills after using the Contextual Teaching and Learning model Based on the Noble Values of Malay Culture. It can be seen that there has been an increase in the results of students' higher-order thinking skills both in small, medium and high trials. In accordance with the criteria, the average N-Gain score was 0.7>g>0.3, namely 0.58 in trial I, 0.73 in trial II and 0.74 in trial III. This is in accordance with the criteria for learning outcomes to have increased based on the results of the pretest and posttest, with the criteria of N-Gain 0.7>g>0.3 said to be medium and N-Gain 1.0>g>0.7 said to be high (Trie:2019).

Furthermore, the percentage obtained in trial I was 58.3%, trial II was 73%, and trial III was 74%. This is in accordance with the opinion of Hake (1998), the category of effectiveness, namely effective >76%, moderately effective 56%-75%, less effective 40%-55% and ineffective <40%. So, it can be concluded that this study is categorized as quite effective, with a fairly effective percentage of 56%-75%. This answers the indicator of the criteria met with the order of improvement in categorized learning outcomes at a percentage of 74%.

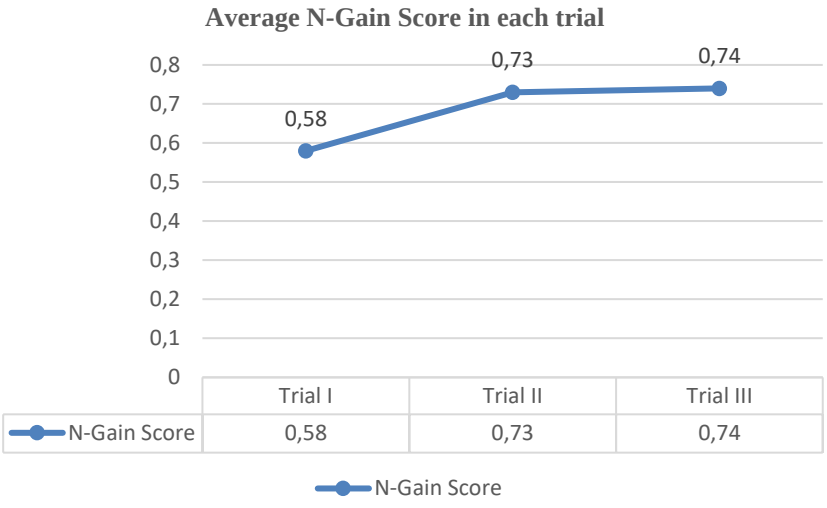

Figure 1. Diagram of improving N-Gain Score

Based on Figure 1, the average N-Gain score chart, it can be seen that in trial I, it got a score of 0.58. Trial II scored 0.73, and Trial III scored 0.74. Thus, student learning outcomes have been proven to increase after using a contextual teaching and learning model based on

the noble values of Malay culture. The improvement in student learning outcomes is seen in each trial's N-Gain score. The average N-Gain Score in each trial was categorized as medium and high. In the second and third trials, it was seen that the N-Gain score was in the high category.

The teaching and learning process requires the achievement of educational goals. Permanent behavior change is a highly expected educational goal after the learning process. The teacher can determine the learning scenario process according to the characteristics and needs of students to achieve these educational goals. In achieving the desired academic goals, the learning process must provide a meaningful experience for students. Education in learning will be meaningful if students experience what they learn, not just know it and memorize it.

Contextual learning is a learning concept. The teacher's task is to present real-world situations in the classroom and encourage students to relate the relationship between their knowledge and its application as family members and society. Learning outcomes are expected to be more meaningful for children, who are expected to solve problems, think critically, carry out observations, and draw conclusions in their long-term lives (Jin et al., 2020; Qureshi et al., 2023). In that context, students need to understand the meaning of learning, its benefits, its status, and how to achieve it.

Today's education tends to return to the idea that children will learn better if the environment is created naturally (Sekarini & Arty, 2019; Wahyuni et al., 2017). Learning will be more meaningful if children "experience" what they are experiencing, not "know". Learning that is target-oriented to mastery of the material has proven successful due to the short-term "remembering" competency. However, failing to equip children to solve problems in long-term life. Therefore, learning only oriented to cognitive ability without being followed by skills and attitudes will only be in vain.

The Contextual Teaching and Learning model uses a contextual approach. This approach is a teaching approach that, from its characteristics, can help students present meaningful learning and hone higher-order thinking skills. The philosophy of contextual learning is rooted in John Dewey's progressivism. The point is that students will learn well if what they learn is related to what they know, and the learning process will be productive if students are actively involved in the learning process at school (Khakim et al., 2021; Priyadi & Yumiati, 2021)

Constructivist theory views that in learning, students actively construct their knowledge (Jin et al., 2020; Marzal et al., 2021). Vygotsky emphasizes the importance of utilizing the surrounding environment in learning, such as the nearest culture (Vygotsky, 1978). John Dewey emphasizes learning through experience to be more meaningful, known as learning by doing (Rodgers, 2002). Ausubel emphasizes meaningful learning through social dialogue in learning. Bruner emphasized that social interaction inside and outside educational institutions affects language acquisition and problem-solving behavior. Albert Bandura emphasizes social interaction in learning; according to him, the cultural environment can be important for understanding and internalizing concepts and discussing solutions to problems. Situated Learning argues that learning is most effective when considering cultural context. Bronfenbrenner views that the immediate environment influences individual development; in this case, applying cultural values to the learning process will create positive student

development. Koentjaraningrat's Cultural Theory proposes culture as a way for people to coexist, passed down from generation to generation. For this cultural value not to be lost, according to him, it must be internalized the integration of contextual learning with learning environments has been proposed as an approach to promote higher-order thinking skills (HOTS) in Malaysian schools (Raub et al., 2015).

Contextual Teaching and Learning model is one of the effective learning approaches in connecting academic concepts with the real-life context of students. In the context of education with local cultural richness, the integration of Al-Qur'an-based Malay cultural values provides a great opportunity to be applied. Malay cultural values rooted in the teachings of the Al-Qur'an such as obedience, customs, knowledge deliberation and creativity are able to improve the quality of learning. The Contextual Teaching and Learning model that emphasizes the connection between learning materials and real-life context, combined with Al-Qur'an-based Malay cultural values makes learning more meaningful.

The process of cultural internalization can be carried out, especially in the learning process in the classroom for students. Internalization is an installation process that teachers can do through the didactic teaching process. Bruner's Vygotsky's theory of sociocultural nature and social interaction aligns with Bronfenbrenner's theory of ecology and the theory of contract culture. Cultural cognitive theory recognizes that the role of culture is significant in shaping a person's mindset, perception, and understanding (Rezeki et al., 2021; Samo & Kartasasmita, 2018). Cognitive theory states that the learning process is carried out by forming a new knowledge structure and associating it with pre-existing knowledge. Piaget stated that students need challenging experiences for assimilation and accommodation to grow intellectually. Assimilation is when a person matches the new information he receives with experience. At this assimilation stage, learning is required to start from the student's closest environment, namely the culture, so the assimilation process occurs in the cognitive structure. Furthermore, the accommodation process is where students begin to modify the new information they receive with the cognitive structure that has been formed.

Forming this cognitive structure is inseparable from the daily life environment of students. So, learning should start in their daily environment. So that students can assimilate the knowledge they receive and make it meaningful. This process of assimilation and accommodation is part of forming HOTS with indicators of analyzing, evaluating and creating. Starting from analyzing new information through the assimilation process, then evaluating the information through the accommodation process, and developing through discovering solutions or ideas to existing problems through challenging experiences presented to make the learning meaningful.

The meaningful learning process that is expected from the Brunner theory through the discovery and social interaction by Vygotsky is perfected with ecological and cultural theories that regulate how positive interactions are in accordance with the way of life from generation to generation, one of which is with Malay culture which has the noble values of Malay culture. The noble values of Malay culture, consisting of obedience, customs, knowledge, creativity and deliberation, can be the foundation of values for social interaction to find new knowledge and information. The procedure for social interaction and discovering new information or

knowledge is carried out with the noble values of Malay culture, which is believed to be a positive value in supporting the development of students in a positive direction. So, the process of building new knowledge that Vygotsky's theory hopes to have through social interaction with the noble values of Malay culture can create meaningful learning from Bruner's theory. Through learning discovery, social dialogue with the noble values of Malay culture will give birth to a new skill modeling. Students can compile the knowledge with the product output or work from the social dialogue. Through this long learning process, students' higher-order thinking skills will be honed, and they will be able to analyze, evaluate, and create works. Therefore, developing a Contextual Teaching and Learning model based on noble cultural values will improve students' higher-order thinking skills. Culture-based learning is a strategy for creating a learning environment and designing learning experiences that integrate culture as part of the learning process. Local culture-based learning is based on recognising culture as a fundamental part of education and knowledge development (Putra et al., 2022; Suardana et al., 2018).

The results of the study show that the integration of Al-Qur'an based Malay cultural values in the Contextual Teaching and Learning model is able to increase students' understanding of subject matter, strengthen students' character, and encourage critical and creative thinking skills. This approach also increases students' active participation in learning through the exploration of cultural contexts that are close to their daily lives. This study concludes that the integration of Al-Qur'an based Malay cultural values in Contextual Teaching and Learning not only enriches the learning process, but also contributes significantly to character formation. This study recommends the development of learning modules based on Malay culture and the Al-Qur'an. This integration is expected to be an effective learning model in forming a generation that is intellectually intelligent, emotional, and spiritually intelligent.

The Contextual Teaching and Learning Model Based on the Noble Values of Malay Culture can improve students' higher-order thinking skills. Through the integration of cultural values into the learning model, it can help achieve learning goals. Culture is important to children's education (Darma et al., 2024; Rüschenpöhler & Markic, 2020). The Contextual Teaching and Learning model based on the Noble Values of Malay Culture has answered the expectations of various opinions and learning theories. This also aligns with Vygotsky's view of learning, which emphasizes cultural influence. Vygotsky argued that a child's culture and social environment are the most important things that influence the formation of their knowledge. In the noble values of Malay culture, there are the values of obedience, customs, knowledge, deliberation, and creativity. Through these values, they can hone their analysis, evaluation, and creation skills needed in higher-order skills.

There are several findings in the learning activities in the Contextual Teaching and Learning model based on the noble values of Malay culture to improve higher-order thinking skills. Through the stages of syntax applied to the learning process, it can be found that there is social interaction between students and students, students and teachers and teachers and teachers and students. Interaction occurs through the learning community process with deliberation and the inquiry process with knowledge and customs. Through the integration of

the noble values of Malay culture, it can be seen that the social system that has been built has a positive impact on achieving learning goals. Not only that, through the integration of the noble values of Malay culture in the above process, it can also be found that students' analytical skills are beginning to be honed, as can be seen from the delivery of problems submitted by students and questions submitted to the evaluations carried out. These questions contain analysis and assessment of the issues they encounter in their daily lives. However, teachers face challenges in implementing HOTS-focused teaching, including issues related to preparation, processes, and student factors (Seman et al., 2017; Kania, 2025).

In addition to the social system, research findings can be seen as a reaction system from student to student or student to teacher. This can be seen from the response of students answering teachers' questions by providing creative modelling in accordance with one of the noble values of Malay culture, namely creativity, so that the student's answers look so different from the answers in the book references. It can be seen that students can start constructing or building their knowledge with the values of creativity and knowledge that exist in the noble values of Malay culture. Not only the impact of the social system but also the interaction system. This is also a finding in the study, namely the instructional impact obtained, namely the test score of student learning outcomes, which is seen to increase from pretest to posttest. Learning must start from students' cognitive structures. The formation of students' cognitive structures comes from their environment, which is greatly influenced by the local culture. So, learning and education must be brought closer to the cultural elements around students (Samo & Kartasasmita, 2018; Setyawan & Dopo, 2020).

D. CONCLUSION

Based on data analysis, there are several findings in the learning activities in the Contextual Teaching and Learning model based on the noble values of Malay culture to improve higher-order thinking skills. Through the stages of syntax applied to the learning process, it can be found that there is social interaction between students and students, students and teachers and teachers and teachers and students. Interaction occurs through the learning community process with deliberation and the inquiry process with knowledge and customs. Through the integration of the noble values of Malay culture, it can be seen that the social system that has been built has a positive impact on achieving learning goals. Not only that, through the integration of the noble values of Malay culture in the above process, it can also be found that students' analytical skills are beginning to be honed, as can be seen from the delivery of problems submitted by students and questions submitted to the evaluations carried out. These questions contain analysis and assessment of the issues they encounter in their daily lives.

The integration of Quran-based Malay culture into Contextual Teaching and Learning (CTL) for Higher-Order Thinking Skills (HOTS) provides a holistic and culturally relevant approach to education. By embedding Islamic values and Malay traditions into CTL strategies, students not only enhance their cognitive abilities—such as critical thinking, problem-solving, and analytical reasoning—but also develop a strong sense of identity and moral integrity. The study highlights that culturally responsive pedagogy fosters deeper engagement, making learning more meaningful and impactful. Moreover, the fusion of Quranic teachings with

modern educational methodologies ensures that students are equipped with both intellectual and ethical competencies to navigate contemporary challenges. This approach ultimately contributes to the development of well-rounded individuals who are not only academically proficient but also socially responsible and spiritually grounded. Future research should explore broader applications of this integration in various educational contexts to further enhance its effectiveness in nurturing 21st-century learners.

Based on the results of the study, several recommendations were put forward to strengthen the integration of Quran-based Malay culture in Contextual Learning (CTL) to improve Higher Level Thinking Skills (HOTS):

1. Strengthening Educator Competence

Educators need to be given continuous training on the implementation of CTL based on Islamic values and Malay culture. Training programs, workshops, and learning modules can help improve their understanding and skills in implementing this approach effectively.

2. Development of Contextual Teaching Materials

There needs to be the development of teaching materials such as textbooks, interactive modules, and digital media that combine elements of Malay culture and the values of the Quran. This material can help educators in delivering learning that is more relevant and interesting for students.

3. Improvement of Empirical Research

Further studies are needed to evaluate the effectiveness of the integration of Malay culture based on the Quran in various subjects and levels of education. Research with empirical methods will provide tangible evidence of the impact of this approach on the development of HOTS as well as students' character.

4. Policy and Institutional Support

The government and educational institutions need to provide policy support that encourages the implementation of CTL based on Malay culture and the Quran. This includes budget allocation, curriculum development, and strengthening collaboration between educational institutions, communities, and the government.

5. Collaborate with the Community and Parents

Parents and communities have an important role to play in supporting cultural-based learning and Islamic values. Community-based educational programs, such as extracurricular activities and recitations, can help students apply the values they learn in everyday life.

By implementing this recommendation, it is hoped that learning based on the Quran and Malay culture can be more effective in improving HOTS and forming a generation that is knowledgeable, critical, and noble.

Although there are significant findings from the improvement of student learning outcomes, especially in higher-order thinking skills, it is very important to evaluate the limitations in this study. The use of samples in the study is still in a limited scope. Nonetheless,

considerable efforts will be made to further disseminate this product to be tested more effectively on a wider and larger sample in the hope of gaining greater significance.

This study has some limitations that need to be noted. First, the implementation of Quran-based Malay cultural integration in Contextual Learning (CTL) for Higher Level Thinking Skills (HOTS) still depends on the understanding and willingness of educators in adapting this approach. Without adequate training and support, their effectiveness may vary. Second, this study is only limited to Malay culture and specific educational contexts, which may not be generalized to other education systems or different cultures. Furthermore, factors such as differences in students' skill levels, availability of appropriate teaching materials, and institutional support can also influence the success of this implementation. Finally, the study focuses on conceptual and practical aspects, but further studies are needed to assess the long-term impact on academic achievement and character building of students. Therefore, further research involving empirical studies from various educational contexts is recommended to strengthen the effectiveness of this research.

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