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Development of the E2A2E Learning Model with a SOLO Taxonomy-based Deep Learning Approach to Improve The Moral Character of Madrasah Aliyah Students

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Abstrak

Pembelajaran akhlak di madrasah aliyah sering kali hanya mencapai aspek kognitif tanpa implementasi praktis, sehingga diperlukan model pembelajaran yang mendorong internalisasi nilai moral. Penelitian ini bertujuan mengembangkan model pembelajaran E2A2E (*Engage*, *Explore*, *Analyze*, *Apply*, *Evaluate*) dengan pendekatan deep learning berbasis taksonomi SOLO untuk meningkatkan akhlakul karimah siswa. Metode penelitian menggunakan model pengembangan ASSURE melalui tahap analisis, perancangan, implementasi, dan evaluasi. Hasil penelitian menunjukkan bahwa model E2A2E sangat layak (rata-rata kelayakan >88%) dengan peningkatan signifikan pada pemahaman siswa dari level unistruktural hingga extended abstract. Simpulannya, model ini efektif dalam meningkatkan kesadaran moral dan perilaku etis siswa. Untuk penelitian selanjutnya, disarankan untuk menguji model ini pada konteks yang lebih luas dan mengintegrasikan teknologi digital untuk optimalisasi hasil.

Kata kunci: akhlakul karimah; deep learning; madrasah aliyah; model E2A2E; taksonomi SOLO

Abstract

Moral education in Islamic high schools often only addresses cognitive aspects without practical implementation, thus requiring a learning model that encourages the internalization of moral values. This study aims to develop the E2A2E (Engage, Explore, Analyze, Apply, Evaluate) learning model using a deep learning approach based on the SOLO taxonomy to improve students' moral character. The research method uses the ASSURE development model through the stages of analysis, design, implementation, and evaluation. The results show that the E2A2E model is highly feasible (average feasibility >88%) with a significant increase in students' understanding from the unistructural to the extended abstract level. In conclusion, this model is efficacious in improving students' moral awareness and ethical behavior. For further research, it is recommended to test this model in a broader context and integrate digital technology to optimize results.

Keyword: noble character; deep learning; Islamic Senior High School; E2A2E model; SOLO taxonomy

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INTRODUCTION

Moral Education in Islamic senior high schools faces several significant challenges in achieving its objectives, which extend beyond simply transferring knowledge to instilling noble character in students. One of the primary challenges is the gap between theory and practice, where students understand Islamic moral concepts cognitively but struggle to apply them in their daily lives. In Bloom's taxonomy theory, this condition reflects that students are not yet able to apply (C4) and are still in a state of low-order thinking skills (LOTS) (Wilson, 2016). This can be seen in the behavior of students who are still often involved in actions that contradict Islamic teachings, such as rude behavior, dishonesty, and non-compliance with religious norms.

The phenomenon of a lack of good character can be seen in various incidents that often occur among students, such as fights between students, bullying, drug use, and others. Data from the National Narcotics Agency (BNN) in 2020 shows that the prevalence of drug abuse among students reached 10.3%, which reflects a low level of moral and ethical awareness. In addition, the 2021 National Survey on Clean and Healthy Living Behaviors (PHBS) revealed that more than 35% of students in Indonesia exhibit behaviors that do not support the development of good character. This phenomenon is an essential indication that moral Education needs to receive greater attention.

Various studies also show a decline in moral quality among Indonesia's younger generation. According to the survey, nearly 40% of high school students admit that they no longer consider religious teachings essential in their lives. This is because teaching methods that rely solely on one-way instruction often fail to touch on the deeper moral and ethical dimensions of students.(Zrudlo, 2023) (Sun et al., 2023). In fact, character education integrated with religious values can strengthen students' awareness of their moral responsibilities, which is very important in shaping a better society. (Zain et al., 2024) (Zubaidah, 2019) (Prasetiya & Cholily, 2021) (Idris, 2023).

Previous research on this topic has been conducted by several researchers, including Kraft & Grace (2017), Liu dan Zhang (M. Liu et al., 2019), serta Schaps dan Lewis (Schaps & Lewis, 2014). Research conducted by Kraft and Grace has explored how character education can be practically applied in school learning. Kraft and Grace suggest integrating moral theory and daily practice in character education, with a focus on developing empathy, responsibility, and honesty.

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Another study, conducted by Liu and Zhang (2019). This study examines how moral Education taught in the classroom can be applied in real life through an approach based on daily practices. Liu and Zhang conducted a longitudinal study to evaluate the impact of character education programs on the development of students' moral values, including responsibility, perseverance, and cooperation. Schaps & Lewis (2014) Discussed how schools can become places that support the development of positive character through the integration of theory and practice in school life. Recent studies confirm that the explicit integration of religious values into the curriculum strengthens the formation of noble character, because religious teachings not only convey doctrine but also form a substantial moral foundation for students. National education policy emphasizes the internalization of spiritual values, cooperation, tolerance, and humility as key strategies to overcome the moral decadence of the younger generation.

The research gap lies in the combination of the deep learning approach and the SOLO taxonomy, which previous researchers have not addressed. The deep learning approach is currently in the spotlight because it will be applied to primary and secondary Education. SOLO taxonomy is well-suited to be a benchmark for the successful implementation of learning models.

The novelty of this research lies in the existence of a learning model with a deep learning approach and the SOLO taxonomy, which is ready to be implemented in anticipation of the introduction of the deep learning approach in primary and secondary schools in Indonesia. This model is suitable for integrating the theory learned in school with practice in real life.

Based on the above explanation, this study aims to produce a learning model with a deep learning approach based on the SOLO taxonomy to improve faith and moral competence in the real world. The urgency of this study lies in the need for a learning model that is suitable for the deep learning approach that will soon be implemented. This model will accommodate three principles of deep learning, namely meaningful learning, mindful learning, and joyful learning, in its syntax and is designed explicitly for moral learning. (Chiang et al., 2018) (M. Liu et al., 2019) (Zeidan et al., 2019) (Zeidan et al., 2020) (Shao & Zhang, n.d.) (J. Liu & Liu, 2019). These three principles will involve thinking, feeling, tasting, and exercising. By using the learning model inspired by the deep learning approach, students will be able to think critically, be creative, collaborate, communicate, become good citizens, have faith and piety, independence, and physical health.

The contribution of this research lies primarily in providing a prototype of the E2A2E learning model that is ready for further testing, adaptation, and development by subsequent

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researchers, particularly in developing higher-quality character assessment instruments and exploring their integration with educational technology. For teachers, this model provides clear operational guidelines and syntax for applying the deep learning approach in shaping students' good character, as well as a reference for developing contextual teaching tools. Meanwhile, for policymakers (such as the Ministry of Religious Affairs), these findings can be used as a basis for consideration and empirical reference in formulating innovative curriculum policies, designing teacher training programs, and formulating learning standards for Islamic Religious Education and Morality subjects that are more relevant to the demands of the 21st century.

METHOD

Research model

This development research uses the ASSURE development design, which consists of six stages: Analyze learner characteristics, State objectives, Select methods, media, and materials, Utilize materials, Require learner participation, and evaluation and revision. The stages are divided into three main stages: pre-research, research, and post-research.

Gambar 3. Model ASSURE

Data dan Data Sources

The data in this study are categorized into two types: qualitative and quantitative data. Qualitative data consists of suggestions for improvement, criticism, and comments provided by learning model experts, Aqidah Akhlak learning experts, students, and teachers. Quantitative data is obtained from questionnaires completed by Aqidah

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Akhlak learning experts, learning model experts, students, and teachers. In addition, quantitative data also consists of data derived from student learning outcomes.

Data Collection Instrument nd technique

Data collection was conducted through three methods: questionnaires, interviews, and observations. Questionnaires were used to collect data on the suitability of the model syntax, teaching materials, media, methods, learning environment, and learning experiences planned for students. The questionnaires were addressed to learning model experts, aqidah akhlak learning experts, students, and teachers. Interviews were conducted with learning model experts, Aqidah Akhlak learning experts, and teachers to obtain data on the feasibility of the learning model. Furthermore, observations were conducted to determine the implementation of the materials taught in aqidah akhlak lessons on students' behavior in the real world.

Data Analysis

The qualitative data obtained were analyzed through three stages, namely data condensation, data presentation, and data conclusion. (Miles, Matthew B., Huberman, A. Michael. dan Saldaña, 2014). The quantitative data from the questionnaire were analyzed using classical theory. (Sugiyono, 2013). The results of the calculations are interpreted using the following table.

Table 1

Module feasibility

Percentage	Interpretation
81-100%	Highly suitable
61-80%	Acceptable
41-60%	Fairly acceptable
21-40%	Less Acceptable
1-20%	Very Unacceptable

RESULTS AND DISCUSSION

Results of E2A2E Model Development

The development of the E2A2E (Engage, Explore, Analyze, Apply, Evaluate) learning model, utilizing a deep learning approach based on the SOLO (Structure of Observed Learning Outcomes) taxonomy, was achieved through the application of the ASSURE instructional design model. The ASSURE model, proposed by Smaldino et al (2019), provides a systematic

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framework consisting of six stages: Analyze Learners, State Objectives, Select Methods, Media, and Materials, Utilize Media and Materials, Require Learner Participation, and Evaluate and Revise. Each stage is implemented concretely to ensure the model's effectiveness in achieving its ultimate goal: improving students' moral character.

The first stage involves analyzing learners, during which an in-depth analysis is conducted on the characteristics of 35 students in grade XI of Madrasah Aliyah Mambaul Ulum, who are the subjects of development. This analysis covers three main aspects: general academic abilities, learning styles, and specific needs related to understanding moral character values. Data was collected through questionnaires and interviews with Aqidah Akhlak teachers. The results showed that 70% of students were at the unistructural level of the SOLO taxonomy in understanding the concept of morals, meaning they were only able to identify one specific aspect separately, such as honesty or respect for teachers, without being able to relate it to a broader context. In addition, auditory and visual learning styles were dominant, while the primary need identified was for learning materials that were contextual and applicable to everyday life.

The second stage is Formulating Learning Objectives (State Objectives). Based on the results of the student analysis, the next stage is to formulate specific, measurable learning objectives oriented towards achieving the SOLO taxonomy. The learning objectives are designed to guide students from lower levels of understanding (prestructural and unistructural) to higher levels (relational and extended abstract). The learning objectives are created based on the Love Curriculum issued by the Ministry of Religious Affairs. (Kementerian Agama, 2025). The learning objectives to be achieved are to avoid despicable behavior, such as disobeying parents, neglecting prayer, consuming the property of orphans, and engaging in corruption.

These learning objectives are elaborated into the following learning achievement criteria.

1. Students can cite examples of immoral behavior, such as corruption, along with the arguments or legal basis for it.
2. Students can explain several negative impacts of corruption by relating them to social or spiritual contexts.
3. Students can analyze the relationship between the immoral act of corruption and its worldly and spiritual consequences.

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4. Students can compare the levels of corruption danger based on the arguments from the Qur'an, Hadith, and the opinions of scholars.
5. Students can relate the practice of corruption to the sin of exploiting the wealth of orphans, as mentioned in QS. An-Nisa: 10.
6. Students can design preventive solutions to prevent corruption in modern life.
7. Students can evaluate real cases (e.g., corruption in society) and provide solutions based on faith and moral values.

The formulation of these objectives is crucial as a compass for selecting methods and evaluating outcomes. Constructive alignment learning objectives, informed by the SOLO taxonomy, enable the creation of authentic assessments that truly measure the depth of understanding. The objectives formulated focus not only on cognitive aspects but also on affective and psychomotor aspects. This bridges the gap between theoretical knowledge and its practical application, which lies at the heart of forming a good character. Thus, every activity in the E2A2E model is designed to achieve these stated objectives progressively.

The third stage, Select Methods, Media, and Materials. At this stage, the selection and development of a combination of methods, media, and materials tailored to the objectives and characteristics of the learners are presented in Table 2 below.

Tabel 2
Activities, Methods, Media, and Materials

Sequence	Stage	Activity	Method
1	Engage (Joyful learning)	• Students are shown a simple video about the dangers of corruption. • Small group discussion • Short presentation	Discussion and presentation
2	Explore (mindful learning)	• Quran-Hadith Hunt: searching for verses/hadiths related to the prohibition of corruption and comparing them with the modern context. • Case study analysis: students analyze real cases from the stories of the Prophet or factual news	Independent learning
3	Analysis (meaningful learning)	• Discussion: identifying immoral issues that have the most systemic negative impact. • Developing a plan to prevent corruption among teenagers (in the form of posters, podcasts, infographics, etc.)	Discussion
4	Apply (meaningful learning)	• Students implement the plan they developed in the previous stage	Project

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		• Teachers assist students in guiding them to complete the plan to prevent immoral behavior • Students document each step of the implementation and adjust it to the initial plan	
5	Evaluate (SOLO-Based assessment)	• Students reflect on the plan and implementation outcomes • Students reflect on individual and group contributions to the implementation of activities • Teachers conduct assessments using assessment rubrics • Teachers determine the SOLO taxonomy level mastered by students	-

Tahap keempat adalah *Utilize Media and Materials* atau menggunakan media dan materi. Implementasi atau penggunaan media dan materi dilakukan dalam lingkungan kelas MA Mambaul Ulum Bojonegoro. Sebelum pelaksanaan, dilakukan pelatihan singkat bagi guru dan siswa untuk memastikan kelancaran dalam mengoperasikan media E2A2E. Dalam pelaksanaannya, guru berperan sebagai fasilitator yang memandu siswa melaksanakan langkah demi langkah model.

The fourth stage is Utilize Media and Materials. The implementation or use of media and materials is carried out in the classroom environment of MA Mambaul Ulum Bojonegoro. Prior to implementation, a brief training session is conducted for teachers and students to ensure smooth operation of the E2A2E media. In implementing the model, the teacher serves as a facilitator, guiding students through each step.

The fifth stage is Require Learner Participation. This stage focuses on designing activities that ensure active involvement and continuous participation of students during the learning process. In the E2A2E model, this active participation is designed in two areas, namely interaction with peers and interaction with teachers. In peer interactions, participation is manifested through collaborative group discussions and project presentations. Interaction with teachers takes the form of guidance and assistance in project preparation. This is also in line with Vygotsky's constructivist theory, which posits that knowledge is formed through social interaction. (Vygotsky, 1978). At this stage, the model is also validated by experts. The experts conducting the validation are model experts, learning experts, and teachers. The results of the expert validation can be seen in Table 3 below.

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Tabel 3

Model Test Results

Indicator	Average	Interpretation
Model Structure	96,87%	highly feasible
Effectiveness	88,54%	highly feasible
Efficient	91,66%	highly feasible
Attractiveness	92,5%	highly feasible

The final stage of the ASSURE model involves evaluating and revising the effectiveness of the entire learning process to make any necessary adjustments. The evaluation is conducted comprehensively, covering two aspects: (1) evaluation of the model as a whole and (2) evaluation of the improvement in students' moral character based on the SOLO taxonomy. The evaluation of learning outcomes utilizes authentic assessment instruments aligned with the SOLO taxonomy, including rubrics for assessing student projects and observations of behavioral changes (affective).

Based on the above validation results, it can be concluded that the developed model has met the feasibility indicators in terms of model structure, effectiveness, efficiency, and attractiveness. The results of observations of group discussions in the implementation of the E2A2E model provide a clear picture of the varying levels of internalization of the akhlakul karimah material, particularly regarding the dangers of corruption, among students. This variation can be explained in depth using the SOLO (Structure of Observed Learning Outcomes) taxonomy as an analytical tool. The SOLO taxonomy, developed by Biggs and Collis (1982), not only measures the quantity of information mastered by students but, more importantly, assesses the quality of their understanding and ability to connect and build upon these ideas. Group 1 is at the multistructural level, group 2 is at the extended abstract level, and group 3 is at the relational level. The assessment rubric used to assess student competence is as follows.

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Table 4

SOLO Taxonomy

Stage	Description
Prestruktural	a. Students cannot mention examples of immoral behavior discussed (disobeying parents, neglecting prayer, stealing from orphans, and corruption). b. Students are unable to explain the basic meaning of these reprehensible behaviors.
Unistruktural	a. Students can cite one example of immoral behavior (e.g., disobeying parents) along with the evidence or legal basis for it. b. Students can explain one negative consequence of an immoral act (e.g., the consequences of neglecting prayer).
Multistruktural	a. Students can mention several examples of immoral behavior (disobeying parents, neglecting prayer, consuming the property of orphans, and corruption) along with their arguments. b. Students can explain several negative impacts of each immoral behavior without relating them to a social or spiritual context.
Relasional	a. Students can analyze the relationship between despicable morals and worldly and spiritual consequences (for example, disobeying parents results in the loss of sustenance and major sins). b. Students can compare the level of danger associated with each immoral act based on the arguments from the Qur'an, Hadith, and the opinions of scholars. c. Students can connect the practice of corruption with the sin of exploiting the wealth of orphans, as mentioned in QS. An-Nisa: 10.
Berpikir abstrak yang mendalam	a. Students can devise preventive solutions to avoid despicable morals in modern life (e.g., strategies to prevent corruption through the value of honesty in Islam). b. Students can evaluate real cases (e.g., corruption in society) and provide solutions based on faith and moral values. c. Students can predict the long-term impact of allowing despicable morals to exist in society (e.g., social damage resulting from abandoning prayer).

The evaluation results serve as the basis for revising the model. However, because the model feasibility test results have met the specified standards, revisions are made to enrich the material taught to students, not to the model syntax.

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Model E2A2E Feasibility

Model Structure

The E2A2E model consists of five main stages, namely Engage, Explore, Analysis, Apply, and Evaluate. In the engage stage, students are invited to watch a video showing the dangers of corruption. The video is presented in the form of an animated film accompanied by a voiceover that highlights the risks of corruption. This is done to create a sense of enjoyment in the learning process. The use of videos prevents students from becoming bored and tired at the start of the lesson. This aligns with the principle of deep learning, specifically joyful learning. The concept of joyful learning in the deep learning approach is to provide a learning experience that is enjoyable, interactive, and motivates students to actively participate in the learning process, in line with the findings that the Deep Learning approach encourages active student involvement (Wei et al., 2021). The E2A2E model consists of five main stages, namely Engage, Explore, Analysis, Apply, and Evaluate. In the engage stage, students are invited to watch a video showing the dangers of corruption. The video is presented in the form of an animated film accompanied by a voiceover that highlights the risks of corruption. This is done to create a sense of enjoyment in the learning process. The use of videos prevents students from becoming bored and tired at the start of the lesson. This aligns with the principle of deep learning, specifically joyful learning. The concept of joyful learning in the deep learning approach is to provide a learning experience that is enjoyable, interactive, and motivates students to actively participate in the learning process, in line with the findings that the Deep Learning approach encourages active student involvement

The next stage is exploration, which uses the principle of mindful learning. Mindful learning is a process in which students consciously direct their attention, manage their emotions, and apply metacognitive strategies to build in-depth knowledge. (Setiyawan et al., 2021). At this stage, students are asked to find verses from the Quran or Hadith related to the prohibition of corruption and compare them with the modern context. Students are also invited to identify the social implications of these corrupt practices and formulate prevention strategies based on the values of akhlakul karimah.

In the analysis stage, students discuss the problem of corruption that is prevalent in Indonesia. They compile a list of corruption cases and examine the systemic impacts of such corruption. This stage adopts the principle of meaningful learning, a learning process that emphasizes deep conceptual understanding and the ability of students to connect new knowledge with personal experiences and moral values, so that knowledge is not only

memorized but also applied in real contexts (Mystakidis et al., 2019). This analysis process makes students aware that corruption not only harms the state but also has systemic impacts on society and the environment. Students are also asked to plan an anti-corruption campaign in the form of a poster, podcast, or short film.

The application stage is the process of implementing the anti-corruption campaign plan developed in the previous stage. Teachers assist students by guiding how to complete preventive measures against corruption.

In the evaluation stage, students reflect on all the activities they have completed during the learning process. They reflect on their awareness of avoiding corruption and the positive impact of the anti-corruption campaign they have carried out. (Kristiono et al., 2020).

Based on the test results, the feasibility percentage of the model structure reached 96.87%. This means that structurally, the model is proven to be consistent with the principles of Deep Learning, covering the stages of engage, explore, analyze, apply, and evaluate in sequence. These stages can facilitate affective assessment using the SOLO taxonomy, which includes pre-structural, unistructural, multistructural, relational, and extended abstract stages, reflecting a gradual increase in students' awareness, values, and anti-corruption attitudes (Herliani, 2016). The model's syntax also guides students through different steps and engages them in meaningful learning experiences. The implementation of this model is expected to enhance students' ability to make critical ethical decisions, as findings indicate that anti-corruption learning facilitates the internalization of moral values among students. (Arifiyanti et al., 2022). The implementation of this model is also in line with previous findings that a project-based approach in anti-corruption Education enhances the internalization of moral values in students. (Sumaryati et al., 2022). Thus, the integration of this model is expected to strengthen the values of integrity, hard work, and responsibility as the foundation of students' good character.

Model Effectiveness

Based on the test results, the model's effectiveness reached 88.54%. The effectiveness of the model was viewed from various aspects. First, effectiveness was seen from the improvement in student learning outcomes in the subject of aqidah akhlak. The evaluation showed a significant improvement in the affective and psychomotor dimensions of students, consistent with the findings that project-based learning can strengthen the internalization of moral values. This can be seen in the improvement in the level of student abilities, which were initially at the unstructured stage, to the multistructural, relational, and extended abstract stages.

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Based on the SOLO taxonomy, the performance of the three groups showed three different levels of understanding. Group 1 was at the multistructural level. At this level, they demonstrated mastery of several relevant pieces of information, but these were still separate (a plurality of unrelated information). This was reflected in the group's ability to name types of despicable morals, memorize arguments, and name the effects of corruption independently. They have acquired several factual knowledge (declarative knowledge) but are not yet able to establish logical and in-depth relationships between these elements. Internalization at this stage remains superficial; knowledge about corruption is limited to recognition and memorization, rather than reaching the level of understanding why and how it occurs and its connection to a broader context.

Meanwhile, Group 3 demonstrated characteristics of relational level understanding. According to SOLO theory, at this level, various previously separate components of knowledge begin to be integrated into a coherent and meaningful structure (the components are integrated into a coherent whole). The group's ability to not only name the types of corruption, its causes, and its impacts, but also to connect the cause and effect between greed (as the cause) and its legal and social consequences in Indonesia, demonstrates a qualitative leap in thinking. They no longer see facts as isolated entities, but as an interconnected network. The inclusion of relevant hadiths reinforces this structure, demonstrating that they can effectively link religious principles to contemporary phenomena. Internalization at the relational level has begun to deepen as students have built a mental framework that allows them to analyze problems from multiple complementary perspectives.

The highest achievement was demonstrated by Group 2, whose mental operations corresponded to the extended abstract level. This level is the ability to generalize relational structures into higher abstract realms and apply them to new domains. This group not only connected facts (like Group 3) but also generalized principles and evaluations beyond the immediate context provided. They linked corruption to the social phenomenon of "flexing" (showing off wealth) as a manifestation of greed, an analysis that was abstract and conceptual. Even more impressively, they applied the principle of corruption prevention to a micro context that was highly relevant to their lives as students, namely, "not cheating." The conclusion "better to fail but be honest" is strong evidence that the values of honesty have been well internalized and elevated to a value system that overrides immediate consequences (test scores). This demonstrates a profound internalization, where external knowledge about morality has

been integrated into internal beliefs and behavioral guidelines (Krathwohl, Bloom, & Masia, 1964 dalam domain afektif).

This difference in the level of internalization proves the effectiveness of the E2A2E deep learning-based learning model in accommodating differences in students' cognitive abilities. The adaptive platform in this model is strongly suspected to have succeeded in providing appropriate scaffolding for each group, enabling them to achieve an optimal level of understanding according to their respective zones. (Vygotsky, 1978). Group 1 may receive more assistance in identifying and memorizing basic elements, while groups 2 and 3 are given challenges in the form of complex case studies that trigger relational and abstract thinking. Thus, this model not only transfers knowledge but also actively fosters a deep and meaningful understanding, which ultimately leads to the internalization of akhlakul karimah values, the primary objective of learning.

Second, the learning model has been developed based on three main principles of deep learning, namely mindful learning, meaningful learning, and joyful learning. Joyful learning is a principle of deep learning that focuses on providing enjoyable and interactive learning experiences that motivate students to participate in the learning process actively. (Waterworth, 2020). In the E2A2E model structure, the principle of joyful learning is applied in the engage stage. An example is inviting students to watch an animated video about the dangers of corruption. The use of this interactive video is designed to make students feel happy and involved from the start of their learning, which aligns with findings that the Deep Learning approach encourages active student engagement.

Mindful learning is a learning process in which students consciously direct their attention, manage their emotions, and apply metacognitive strategies to build in-depth knowledge. (Hall et al., 2019). This principle emphasizes full awareness and mental engagement of students in the learning process.

The principle of mindful learning is applied in the Explore stage of the E2A2E model. At this stage, students are asked to actively search for verses from the Quran or Hadith related to the prohibition of corruption and compare them with the modern context. They are also asked to identify the social implications of corruption and formulate prevention strategies based on the values of akhlakul karimah. This activity requires students to consciously direct their attention, analyze information, and reflect on its connection to moral values.

Meaningful learning is a learning process that emphasizes deep conceptual understanding and the ability of students to connect new knowledge with their personal

experiences and moral values (Bui, 2019)**.** The goal is for knowledge not only to be memorized but also to be applied in authentic contexts and to have personal meaning for students.

In the E2A2E learning model, the principle of meaningful learning is applied in the Analysis stage. At this stage, students discuss corruption issues in Indonesia, compile a list of corruption cases, and examine the systemic impacts of corruption. This process makes students realize that corruption not only harms the country but also has systemic impacts on society and the environment. By connecting the issue of corruption to social realities and moral values, students develop a deep and meaningful understanding that they can apply in planning effective anti-corruption campaigns.

Model Efficiency

Based on the test results, the model's efficiency reached 91.66%. The model's efficiency was assessed in terms of time, energy, and cost. In terms of time, the implementation of the E2A2E model required two meetings with tasks designed to improve understanding while minimizing the administrative burden on teachers, making it efficient in terms of learning time allocation. Models designed with good time efficiency tend to be more attractive and sustainable. If a model requires excessive time, both teachers and students may lose motivation and tend to participate less. Learning models that are time-efficient are easier to scale and apply in various contexts. Paradoxically, time efficiency can support deep learning. By eliminating unnecessary or repetitive activities, the model can direct focus to the core material and activities that contribute most to conceptual understanding and internalization of values.

The developed model is also efficient in its use of energy. The fundamentally developed E2A2E learning model demonstrates substantial efficiency in energy use, a crucial aspect assessed by its ability to "minimize the administrative burden on teachers," as indicated in the model's efficiency evaluation. These labor savings allow educators to reallocate their energy and cognitive focus from time-consuming routine tasks to core pedagogical activities, such as designing innovative learning experiences, providing more personalized individual guidance, and facilitating deep student interactions to achieve meaningful learning. With reduced operational burdens, teachers tend to experience increased professional well-being, minimize the risk of burnout, and maintain high motivation in implementing the model. Furthermore, this efficiency is an important prerequisite for the scalability and sustainability of the model, as a model that does not require excessive effort will be easier to adopt widely in various educational contexts and implement consistently, thereby significantly increasing the chances of achieving the goal of improving students' moral character.

Furthermore, the E2A2E model is also cost-effective. This is reflected in the reduced need for additional learning media and lower operational costs, allowing institutions to allocate their budgets more optimally. Thus, more efficient fund allocation enables schools to invest resources in teacher training to integrate learning technology, which has been identified as a key factor in overcoming the generation gap and improving the quality of education. (Samala et al., 2024).

Model Attractiveness

A model must be attractive. Based on the test results, the E2A2E model has met the attractiveness requirements, as shown by a test result of 92.5%. First, the E2A2E model has stimulated more innovative learning through the use of learning videos, integration with hadith and verses from the Quran, and project creation. Previous research has demonstrated that integrating multimedia into online learning can enhance students' interest and motivation, thereby fostering their active involvement in the learning process. (Shodiq, 2023). Furthermore, the model has also developed the use of a student response system, encouraging students to be actively engaged in their learning. The model also emphasizes sensory stimulation and triggering curiosity to increase enjoyment in the learning process. Initial evaluations indicate a significant increase in student learning motivation, consistent with findings that engaging models can strengthen learning engagement.

CONCLUSION

Based on the research results and discussion, it can be concluded that the E2A2E (Engage, Explore, Analyze, Apply, Evaluate) learning model, combined with a deep learning approach based on the SOLO taxonomy, has proven to be highly feasible and effective in improving the moral character of Madrasah Aliyah students. The feasibility of the model is demonstrated by expert validation results, which yield very high percentages in terms of structure (96.87%), effectiveness (88.54%), efficiency (91.66%), and attractiveness (92.5%). This model has succeeded in facilitating a significant improvement in students' abilities, as seen from the development of their understanding from the initial unistructural level (only understanding one concept separately), increasing to the multistructural level (mastering several concepts but not yet connected), then reaching the relational level (able to connect various concepts coherently), and finally reaching the extended abstract level (able to generalize and apply values in new contexts independently). Through the integration of principles of joyful, mindful, and meaningful learning, the E2A2E model not only improves cognitive learning outcomes but also

shapes students' awareness, attitudes, and behavior in avoiding reprehensible morals, such as corruption. Thus, this model can be used as an innovative alternative in moral learning that is oriented towards the formation of a holistic and contextual Islamic character.

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