

RESEARCH ARTICLE

# A Model For Developing Moral Decision-Making Activities Of Primary School Students Based On Artificial Intelligence

**Turayeva Gulnoza Ergashevna**

Termez University of Economics and Service, Acting Associate Professor of the Department of Primary Education Methodology, Doctor of Philosophy (PhD) in Pedagogical Sciences, Uzbekistan

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## Abstract

The rapid development of artificial intelligence (AI) has significantly influenced modern educational systems, offering new opportunities for enhancing not only academic learning but also students' moral and social development. Moral decision-making is a fundamental component of a child's personality formation, especially during primary school years when values, attitudes, and behavioral patterns are actively shaped. This article proposes a conceptual and pedagogical model for developing moral decision-making activities of primary school students through the integration of artificial intelligence technologies. The study analyzes theoretical foundations, cognitive and moral characteristics of primary school learners, the pedagogical potential of AI, and structural components of the proposed model. The findings suggest that AI-based educational environments, when ethically designed and pedagogically guided, can effectively support children's moral reasoning, empathy, responsibility, and reflective thinking.

## KEYWORDS

Artificial intelligence in education, moral decision-making, primary school students, value education, educational model, ethical development.

## INTRODUCTION

In the context of global digital transformation, artificial intelligence has become one of the most influential technologies shaping the future of education. AI-powered tools such as intelligent tutoring systems, adaptive learning platforms, educational games, and virtual assistants are increasingly used to personalize instruction and improve learning outcomes. However, beyond cognitive and academic achievements, education has a crucial mission to foster moral values, ethical awareness, and responsible decision-making in learners.

Primary school age represents a sensitive period for moral development. During this stage, children begin to distinguish

between right and wrong, understand social norms, and make decisions based on moral judgments rather than mere imitation. Therefore, creating effective pedagogical conditions for developing moral decision-making activities is a priority in primary education.

This article explores how artificial intelligence can be systematically integrated into value-based education and proposes a model aimed at developing moral decision-making activities of primary school students. The study emphasizes the importance of aligning technological innovation with ethical pedagogy and child-centered educational principles.

## Theoretical Foundations of Moral Decision-Making in

## Primary Education

### Moral Development in Primary School Children

Moral development is a complex process involving cognitive, emotional, and behavioral components. According to developmental psychology, primary school children gradually move from externally regulated behavior to internally guided moral reasoning. At this stage, children begin to understand intentions, fairness, empathy, and responsibility.

Moral decision-making refers to the ability to evaluate situations involving moral choices, predict consequences, and select actions consistent with ethical values. In educational settings, this ability is developed through guided experiences, reflection, dialogue, and modeling.

### Educational Role of Moral Decision-Making

Moral decision-making activities help students:

- develop a sense of responsibility for their actions,
- understand social and cultural values,
- regulate behavior in social interactions,
- form stable moral attitudes.

Traditional moral education methods include storytelling, discussions, role-playing, and teacher guidance. However, these methods can be significantly enhanced through interactive and adaptive technologies.

### Artificial Intelligence in Education: Pedagogical Potential

#### Concept of Artificial Intelligence in Educational Contexts

Artificial intelligence in education refers to the use of algorithms and intelligent systems capable of analyzing learner behavior, adapting content, providing feedback, and simulating interactive environments. AI technologies can personalize learning paths and create immersive educational experiences.

In moral education, AI can simulate real-life ethical dilemmas, analyze students' responses, and provide individualized feedback that supports moral reflection and growth.

#### Advantages of AI for Primary School Learners

AI-based learning environments offer several pedagogical advantages for young learners:

- adaptive content based on developmental level,
- interactive scenarios that enhance engagement,
- immediate feedback that supports reflection,
- safe simulation of complex moral situations.

These features make AI a promising tool for supporting moral decision-making activities in primary education.

### Moral Decision-Making and Artificial Intelligence: Conceptual Integration

The integration of AI into moral education requires careful consideration of ethical and pedagogical principles. AI should not replace the teacher's moral authority but serve as a supportive tool that facilitates reflection and guided learning.

AI-based moral education emphasizes:

- learner-centered interaction,
- dialogic learning,
- ethical transparency,
- respect for cultural and social values.

Through scenario-based simulations and adaptive feedback, AI can encourage students to think critically about moral choices rather than providing ready-made answers.

### Structure of the AI-Based Model for Developing Moral Decision-Making

The proposed model consists of interconnected components that collectively support the development of moral decision-making activities in primary school students.

#### Target Component

The primary goal of the model is to develop students' moral decision-making abilities through AI-supported educational activities. Specific objectives include:

- fostering moral reasoning,
- developing empathy and emotional awareness,
- encouraging responsible behavior,
- forming reflective thinking skills.

#### Content Component

The content includes age-appropriate moral themes such as honesty, kindness, respect, responsibility, and cooperation. AI systems present these themes through interactive stories,

ethical dilemmas, and problem-based scenarios relevant to children's daily lives.

### Technological Component

This component includes AI-based tools such as:

- intelligent educational games,
- virtual moral dilemma simulators,
- adaptive storytelling platforms,
- AI-driven feedback systems.

These tools analyze students' choices and provide personalized prompts for reflection.

### Pedagogical Component

The pedagogical framework emphasizes:

- teacher facilitation and guidance,
- collaborative learning,
- discussion and reflection,
- integration with traditional moral education methods.

Teachers play a crucial role in interpreting AI feedback and guiding students toward ethical understanding.

### Evaluation Component

Assessment focuses on qualitative indicators such as:

- ability to justify moral choices,
- demonstration of empathy,
- consistency in ethical behavior,
- reflective responses to feedback.

AI tools assist teachers by collecting learning analytics and behavioral patterns.

### Cognitive and Moral Mechanisms of the Model

The model operates through several cognitive and moral mechanisms:

- **Situation Analysis:** Students analyze moral dilemmas presented by AI scenarios.
- **Prediction of Consequences:** AI prompts learners to consider outcomes of different actions.
- **Moral Reflection:** Feedback encourages reflection on values and intentions.

- **Internalization of Values:** Repeated engagement supports the formation of moral habits.

These mechanisms align with constructivist and sociocultural learning theories.

### Benefits

The proposed model offers several benefits:

- increased learner engagement,
- personalized moral learning experiences,
- development of higher-order thinking,
- integration of cognitive and emotional learning.

AI-based moral education supports holistic child development when used responsibly.

### Challenges and Ethical Considerations

Challenges include:

- ethical design of AI systems,
- data privacy and child protection,
- risk of over-reliance on technology,
- need for teacher training.

Addressing these challenges requires clear ethical guidelines and human-centered pedagogical control.

### CONCLUSION

The development of moral decision-making activities in primary school students is a crucial task of modern education. Artificial intelligence, when integrated thoughtfully and ethically, offers powerful opportunities to support this process. The proposed AI-based model provides a structured approach to combining technological innovation with moral and pedagogical objectives.

By fostering reflection, empathy, and responsible choice-making, AI-supported educational environments can contribute to the holistic moral development of young learners. Future research should focus on empirical testing of the model and the development of ethical standards for AI use in moral education.

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