



Innovative Attitude Assessment in Islamic Education: Techniques, Instruments, and Technology Integration from Primary to Higher Education

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Abstract: This study examines innovations in attitude assessment within Islamic educational institutions, including madrasahs, pesantrens, and formal schools at the primary, secondary, and tertiary levels. The main focus is to develop affective assessment techniques and instruments that are contextually appropriate, methodologically sound, and aligned with core Islamic values such as honesty, patience, empathy, and responsibility. Using a qualitative approach through literature review and historical analysis, the study reviews primary policy documents and relevant scholarly literature. Thematic analysis reveals weaknesses in conventional assessment methods, including subjectivity, limited integration of Islamic ethical values, and a lack of adaptive systems. At the primary level, assessments rely heavily on observation and anecdotal records, which often lead to subjective results. At the secondary level, self- and peer-assessments are commonly used but are vulnerable to bias. In higher education, more contextual approaches such as case-based assessments and portfolios demonstrate better alignment with character education goals. The study highlights the potential of digital innovations, including artificial intelligence and online platforms, to enhance the accuracy and scalability of attitude assessments. These tools offer promising solutions to longstanding challenges by enabling deeper integration of Islamic values in affective evaluation. The study recommends developing standardized yet adaptable digital instruments, along with improved teacher training and curriculum development, to support effective Islamic value-based assessments.

Abstrak: Penelitian ini mengkaji inovasi penilaian sikap dalam lembaga pendidikan Islam, seperti madrasah, pesantren, dan sekolah formal pada jenjang dasar, menengah, dan tinggi. Fokus utama penelitian adalah mengembangkan teknik dan instrumen penilaian afektif yang sesuai konteks, kuat secara metodologis, dan selaras dengan nilai-nilai inti Islam, seperti kejujuran, kesabaran, empati, dan tanggung jawab. Dengan pendekatan kualitatif melalui studi pustaka dan pendekatan historis, penelitian ini menganalisis dokumen kebijakan primer dan literatur ilmiah terkait. Analisis tematik mengungkap kelemahan penilaian konvensional, seperti subjektivitas, keterbatasan integrasi nilai-nilai Islam, serta kurangnya sistem adaptif. Pada pendidikan dasar, penilaian masih bergantung pada observasi dan catatan anekdot yang cenderung subjektif. Di tingkat menengah, penilaian diri dan teman sebaya cukup umum namun rentan terhadap bias. Pendidikan tinggi menunjukkan pendekatan yang lebih kontekstual, seperti penilaian studi kasus dan portofolio. Penelitian juga menyoroti potensi inovasi digital, termasuk kecerdasan buatan dan platform daring, untuk meningkatkan keakuratan dan skalabilitas penilaian sikap. Inovasi ini dinilai mampu mengatasi



tantangan lama serta mengintegrasikan nilai-nilai Islam secara lebih mendalam dalam evaluasi afektif. Penelitian ini menyarankan pengembangan instrumen digital yang terstandar namun fleksibel, serta peningkatan pelatihan guru dan penguatan kurikulum untuk mendukung implementasi penilaian sikap berbasis nilai-nilai Islam secara efektif.

1. Introduction

Character is a fundamental aspect inherent in every individual and plays an important role in shaping the direction of one's behavior. Character cannot be separated from the attitudes and values embraced by the individual, as both become the basis for building daily thought and action patterns. In the context of education, character is often associated with psychological characteristics that encourage learners to behave morally, such as showing honesty, responsibility, tolerance, and empathy in social life. However, the reality in the field shows that the character building of learners has not run optimally.¹

The cultivation of student character and ethical awareness has emerged as a pressing global concern in the context of twenty-first-century education. In an increasingly complex and pluralistic society, education is expected to not only transmit knowledge but also foster moral, civic, and emotional capacities in learners.² The affective domain, encompassing attitudes, values, and character traits, is widely recognized as a foundational aspect of holistic education.³ This is particularly significant for Islamic educational institutions, where character development is deeply interwoven with spiritual and ethical goals.⁴ Consequently, there is an urgent need for systematic and contextually grounded approaches to assessing student attitudes and moral dispositions.

Attitude is an internal aspect and often cannot be observed directly, so it requires special techniques and approaches to be evaluated accurately. In addition, the diversity of learners' behaviors and backgrounds also adds to the complexity of this assessment process. Each level of education has unique characteristics that influence the needs and approaches to assessment. At the basic education level, the main focus of attitude assessment is the introduction of moral and social values, such as honesty, cooperation, and respect for others.⁵ The assessment process at this stage tends to be done through direct observation, anecdotal records and teachers' daily journals. At the secondary education level, attitude assessment is more directed towards the formation of critical attitudes, teamwork and responsibility, often through self-assessment and peer-assessment. Meanwhile, at the higher education level, the focus of assessment shifts to the development of professional ethics, soft skills, and values relevant to the world of work, which are usually measured through project-based tasks, group discussions, and presentations.⁶

Education policy in Indonesia has provided space for the development of attitude assessment through various curricula. In the 2006 Curriculum (Education Unit Level Curriculum or KTSP), attitude assessment was carried out with simple approaches, such

¹ Pusat Asesmen Pendidikan, "Survei Karakter," 17 Juni, 2022.

² Muhamad Murtadlo, "Indeks Karakter Siswa Menurun: Refleksi Pembelajaran Masa Pandemi," 31 Agustus, 2021.

³ Ayep Rosidi, "School-Based Management: Improving The Quality Of Guidance And Counseling Services," *At-Tarbiyat: Jurnal Pendidikan Islam* 07, no. 03 (2024): 470–75.

⁴ Elizabeth Cripps, "School for sedition? Climate justice, citizenship and education," *Journal of Moral Education* 54, no. 1 (2024): 27–43, doi:10.1080/03057240.2024.2375805.

⁵ Sam A. Hardy dan Gustavo Carlo, "Adolescent Naturalistic Conceptions of Moral Maturity," *Journal of Research on Adolescence*, 2020, doi:https://doi.org/10.1111/j.1467-9507.2010.00590.x.

⁶ Nurhadi Nurhadi, "Manajemen Penilaian Pembelajaran Menggunakan K13," *Al-Hayat: Journal of Islamic Education* 2, no. 1 (2018): 63–78.

as observation and anecdotal notes, which covered the spiritual, social and cultural aspects of learners.⁷ Curriculum 2013 expands this approach by making spiritual and social attitudes part of the Core Competencies (KI) integrated in the learning process.⁸ Regulation of the Minister of Education and Culture (Permendikbud) Number 66 of 2013 concerning Educational Assessment Standards also stipulates that attitude assessment can be carried out through observation, self-assessment, and peer assessment.⁹ Furthermore, Permendikbud Number 12 of 2024 concerning the Merdeka Curriculum. The Merdeka Curriculum gives teachers and educational institutions the freedom to choose assessment techniques that suit the needs of students, so that they are more relevant and contextual.¹⁰

Despite policy support, innovations in attitude techniques and instruments remain a pressing need. Technology, for example, can be utilized to reduce assessment subjectivity and improve the efficiency of the assessment process.¹¹ Digital-based applications, AI-assisted data analysis, and online platforms can help teachers and lecturers manage assessment results more accurately. In addition, a holistic and adaptive assessment approach, such as the integration of attitude assessment with cognitive and psychomotor assessments, can create a more meaningful learning experience for students.¹²

Recent scholarship has emphasized the importance of Likert-based attitude assessment scales in identifying non-academic factors that influence student learning outcomes. Such tools are considered essential for measuring affective competencies, particularly in environments where cognitive and psychomotor assessment tend to dominate educational evaluation practices.¹³ Manual Likert scales also tend to be static, not real-time, and less responsive to learners' individual needs, especially in the context of online learning or blended learning which is now increasingly dominant.¹⁴

Emerging pedagogical frameworks such as the *Kurikulum Merdeka* have attempted to bridge character formation with project-based learning and digital innovation. Within this model, character education is embedded through interdisciplinary learning experiences that promote reflection and value internalization.¹⁵ In addition, there is a gap between national curriculum policies, such as the 2013 Curriculum and Merdeka Curriculum, which emphasize the importance of strengthening character and the Pancasila Student Profile, with assessment practices in the field that are still conventional and not innovative. In the context of Indonesian education, researchers have highlighted

⁷ Ibid.

⁸ Multazam Abubakar dan Jusnaeni, "Students' Perception on the Use of Nhk Channel in Learning Vocabulary," *Paedagogia: Jurnal Pendidikan* 11, no. 2 (2022): 211–24, doi:10.24239/pdg.vol11.iss2.331.

⁹ Nurhadi, "Manajemen Penilaian Pembelajaran Menggunakan K13."

¹⁰ Peraturan Menteri Pendidikan, Riset Kebudayaan, dan Teknologi Republik Indonesia Nomor, "Tahun 2024 tentang Kurikulum pada Pendidikan Anak Usia Dini," *Jenjang Pendidikan Dasar, dan Jenjang Pendidikan Menengah*, 12M.

¹¹ Akhmat Taufik, Safridin Edi Wibowo, dan Amal Hameed, "Contextualizing The Value Of Islamic Education In The Digital Era : Challenges And Adaptations In The Khitbah Hadith," *At-Tarbiyat: Jurnal Pendidikan Islam* 07, no. 03 (2024): 489–503.

¹² Miftachul Huda, "Islamic philosophy and ethics of education: Al-zarnūjī's concept of ta'zīm in his ta'lim al-muta'allim," *Ulumuna* 25, no. 2 (2021): 399–421, doi:10.20414/ujs.v25i2.464.

¹³ Nurul Fajriah Saftari, Maya, "Penilaian Ranah Afektif Dalam Bentuk Penilaian Skala Sikap Untuk Menilai Hasil Belajar," *Eduinainment: Jurnal Ilmu Pendidikan dan Kependidikan* 7, no. 1 (2019): 71–81.

¹⁴ Ibid.

¹⁵ Sizka Farwati, Muhamad Iskhak, dan Nunu Mahnun, "Integrating Pancasila in Character Education: A Qualitative Analysis of Ethical Values for Nation-Building," *HEUTAGOGIA: Journal of Islamic Education* 3, no. 2 (2023): 211–23, doi:10.14421/hjie.2023.32-06.

the transformative potential of integrating Pancasila values in character education frameworks. These values, when operationalized through structured assessment instruments, can effectively shape students' ethical and moral consciousness.¹⁶ Therefore, this research is here to fill the gap by exploring innovations in attitude assessment techniques and instruments that do not only rely on Likert scales, but also include technology-based approaches and the integration of Islamic values into the assessment process. The aim is to produce an assessment that is more holistic, adaptive, and relevant to 21st century learning needs, especially in the context of Islamic education based on character and spirituality.

Despite these advances, several limitations persist in the literature on affective assessment within Islamic education. Many studies lack a clear focus on the integration of Islamic values into the design and application of assessment tools. There is also a tendency to treat attitude measurement as an ancillary activity, rather than a central component of instructional planning and evaluation. The fragmentation of approaches across institutions, especially between madrasah, pesantren, and universities, further complicates efforts to build a coherent framework for attitude assessment. Moreover, debates continue over the reliability and contextual relevance of imported assessment models that are not tailored to Islamic ethical and pedagogical principles.

This study seeks to address these gaps by exploring innovations in attitude assessment across Islamic educational institutions at the primary, secondary, and tertiary levels. The research focuses on the development of valid, reliable, and contextually grounded assessment techniques and instruments that align with the principles of Islamic education. Specifically, it aims to construct assessment models that not only address technical challenges but also reflect key Islamic values such as honesty, responsibility, patience, and empathy. By contributing a practical and value-integrated framework, this study aspires to advance both the theory and practice of affective assessment in Islamic education. Ultimately, it offers a strategic foundation for enhancing character education in alignment with religious, national, and global educational priorities.

2. Method

This research is a literature review with a qualitative and historical approach. This library study aims to examine and analyze in depth various relevant literature and documents related to innovations in attitude assessment techniques and instruments at the primary, secondary and higher education levels in the context of Islamic education. The qualitative approach is used to understand the meaning and context of the data obtained in depth, while the historical approach is used to trace the development of attitude assessment over time and assess its relationship with educational policies and Islamic values such as *akhlak karimah*, *tazkiyah al-nafs*, and *tarbawiyah* principles.

This research refers to the views of Denzin and Lincoln, who state that qualitative approaches serve to explore meaning and complex social processes, as well as Erickson who emphasizes the importance of narrative in describing the dynamics of real life. In addition to classic theories, recent references on assessment in the context of the Merdeka Curriculum are also used to maintain relevance to contemporary issues of Islamic education. The data collection process is carried out by identifying relevant

¹⁶ Nikmah Sistia Eka Putri, Fatimah Setiani, dan Muhammad Sandy Al Fath, "Building Character Education Based On The Merdeka Curriculum Towards Society Era 5.0," *Pedagogik: Jurnal Pendidikan* 18, no. 2 (2023): 194–201.

documents and literature, both in the form of policy documents and scientific articles.¹⁷ The main documents that serve as primary sources are Permendikbud Number 12 of 2024 concerning Merdeka Curriculum and the book Development of Evaluation Systems. Meanwhile, relevant scientific journal articles are used as secondary sources to enrich the analysis and expand the scope of the study.

The selected literature meets inclusion criteria such as relevance to the topic of attitude assessment, relevance to Islamic education, and novelty (published in the last five years). The analysis procedure was carried out through several stages: document identification and selection, reading and content review, thematic classification, and data synthesis in a narrative and interpretative manner. The analysis technique used was thematic content analysis, which enabled the researcher to highlight key issues such as the challenges of attitude assessment, integration of Islamic values, and relevant curriculum policies.¹⁸

The entire analysis process was done manually, without the help of qualitative data processing software such as NVivo, but reference management was assisted by the Mendeley application to ensure citation and bibliographic accuracy. To maintain the validity and consistency of the findings, source triangulation was conducted by comparing information from various primary and secondary documents. Theoretical validation was also applied by examining the compatibility of the findings with concepts in Islamic literature and pedagogy. Potential bias was minimized through repeated readings and balancing views from various credible and diverse sources.

3. Results

3.1. Attitude Assessment Concept

The affective domain relates to attitudes and values that reflect the emotional dimension of learning. Attitude, which in English is called Attitude, is one of the concepts in psychology that is closely related to a person's perception and behavior. Attitude can be interpreted as a tendency to react to a certain stimulus or situation. This reaction includes knowledge about the situation at hand, but the main elements of attitude are feelings, emotions, and a tendency to act related to this knowledge.¹⁹ In the process of attitude formation, situations or objects affect individual emotions, giving rise to a tendency to react or take certain actions. Attitude is considered a major determining factor in human behavior, because the resulting reactions often reflect individual preferences, whether they like or dislike something, and choose to approach or avoid the object. Favorable attitudes can include feelings such as contentment or affection, while unfavorable attitudes can include fear, anxiety, anger, or resentment. In addition, attitude is also defined as a construction that allows certain activities to emerge.²⁰

Attitudes can be interpreted from various related aspects, such as relationships with personality, motives, beliefs, and others. In general, attitude can be defined as a behavior that shows readiness to respond to a social object, which ultimately leads to the real behavior of individuals.²¹ Therefore, a person's behavior can be predicted based on

¹⁷ Sulfiani Sulfiani, Nora Saiva Jannana, dan Sedya Sentosa, "Enhancing Islamic Educational Quality through Output-Based Quality Assurance: A Literature Review Perspective," *HEUTAGOGIA: Journal of Islamic Education* 3, no. 2 (31 Desember 2023): 155–68, doi:10.14421/hjie.2023.32-02.

¹⁸ V Wiratna Sujarweni, *Metodelogi penelitian* (Yogyakarta: Pustaka Baru Perss, 2014).

¹⁹ Arief Aulia Rahman, Cut Eva Nasryah, dan Uwais Inspirasi Indonesia, *Evaluasi Pembelajaran*, 1 ed. (Jawa Timur: Uwais Inspirasi Indonesia, 2019).

²⁰ Popy Puspita Sari, Taopik Rahman, dan Sima Mulyadi, "Pola asuh orang tua terhadap perkembangan emosional anak usia dini," *Jurnal paud agapedia* 4, no. 1 (2020): 157–70.

²¹ Rahman, Nasryah, dan Indonesia, *Evaluasi Pembelajaran*.

the attitude he has. Each individual has a unique attitude towards certain objects, which is influenced by various factors, such as differences in talent, interest, experience, knowledge, emotional intensity, and the surrounding environment. As a result, attitudes towards the same thing can differ between individuals. In this case, Krathwohl, Bloom, and Masria developed a taxonomy oriented to the affective domain, describing how a person recognizes and adopts certain values and attitudes that guide his behavior.

According to Rahman's book which says that Krathwohl's affective domain taxonomy, there are five hierarchical levels: recognition (acceptance), responding (responding), appreciation of values (valuing), organizing (organization), and practicing (characterization). These levels indicate a gradual process from the recognition of values to their integration in an individual's personal system.²² The most basic level, where individuals are able to recognize, accept, and pay attention to certain stimuli. Learners behave passively, just listening or paying attention. Examples of operational verbs: listen, see, pay attention. Second, Responding. Involves the ability to respond to an idea, object, or value with more than just recognition. Learners show certain behaviors, such as participating, complying, or responding voluntarily. Examples of learning outcomes: participating in class hygiene, practicing reading the Qur'an. Operational verbs: discuss, comply, practice. Third, Valuing.

Individuals consistently act in accordance with certain values, even without coercion from other parties. This value can be learned from lecturers, friends, or family, with varying levels of commitment. Examples of operational verbs: choose, believe, act. Fourth, Organization. Shows the relationship between values in a structured system, by determining the priority of certain values. Learners are expected to be able to organize various values into a coherent system. Examples of operational verbs: compare, decide, formulate. Fifth, Practicing (Characterization). This is the highest level, where values have been integrated into an individual's personal system and manifested in consistent behavior. Example of learning outcomes: students make Surat Al-Ashr as a life guideline in time discipline. Operational verbs: show attitude, demonstrate, avoid.²³

The development of affective aspects by teachers in learning is strongly influenced by the type of subject and level of education. Even so, each subject has affective indicators that have been determined in the learning outcomes curriculum.²⁴ The measurement of affective aspects is different from the measurement of cognitive aspects, because it cannot be done directly after delivering the material. Changes in a person's attitude take a long time, as does the development of interests, appreciation, and values. Evaluation of affective aspects is useful for understanding students' attitudes and interests or measuring the level of achievement of affective competencies at each level of education. In some cases, a student who achieves the highest score in a subject does not necessarily have an interest or like the subject.²⁵

3.2 Attitude Assessment Techniques and Instruments

In the learning process at schools or madrasahs, the assessment of affective aspects, such as students' attitudes and interests toward the values in Islamic Religious Education (PAI), is an important component that cannot be overlooked. The main objective of this assessment is to determine the extent to which students not only understand Islamic values but also have the willingness and readiness to internalize and practice them in

²² Ibid.

²³ Ibid.

²⁴ Arturo Caso, "Reaktualisasi Strategi Pendidikan Islam: Ikhtiar Mengimbangi Pendidikan Global," *Journal of Petrology* 369, no. 1 (2013): 1689–99.

²⁵ Rahman, Nasryah, dan Indonesia, *Evaluasi Pembelajaran*.

daily life. Students' attitudes toward a value can be positive, negative, or neutral. These three forms are not measures of right or wrong but reflect different stages of affective development.²⁶ Here, the teacher's role is crucial: to stimulate students' interest in the Islamic values taught and to gradually encourage the transformation of negative attitudes into positive ones. Based on the affective domain taxonomy developed by David Krathwohl, the ideal affective learning outcome is to reach at least the third level, valuing. At this stage, students not only acknowledge the existence of a value but also show a commitment to implementing it in real actions. To achieve this goal, affective assessment needs to be designed using appropriate techniques, considering that attitudes are subjective and difficult to measure with conventional tests. Therefore, the evaluation of affective learning outcomes is more suitable using non-test techniques that allow qualitative and contextual data collection.

In evaluating students' affective learning outcomes, teachers at schools or madrasahs can utilize various narrative and contextual attitude assessment techniques. One approach is projective techniques, where teachers present images, scenarios, or imaginary situations to observe how students respond indirectly to certain values. This technique enables students to express attitudes or feelings that may not be easily articulated explicitly.

Additionally, attitude assessment can be conducted through interest and attitude scales, such as Likert scales, which allow teachers to measure the degree of students' interest or agreement with Islamic values quantitatively while maintaining an affective nuance. Systematic observation is also an essential tool, where teachers observe students' behavior in real contexts—both in the classroom and social environments—to capture indications of positive or negative attitudes that naturally emerge.

Other reflective techniques include self-reports and interviews. Through these methods, students are given space to express their understanding, feelings, and experiences related to the taught values, allowing teachers to assess the depth of attitude internalization. Questionnaires or surveys are also commonly used to reach a broader population and identify collective attitude tendencies.

Meanwhile, biographies and anecdotal records serve as narrative tools that help teachers document the development of students' attitudes in the form of stories or life experiences. This approach is very useful for capturing students' affective dynamics more holistically and personally. Through a combination of these techniques, attitude assessment in Islamic education can be conducted more humanely, contextually, and comprehensively.

The selection and development of these instruments must consider the socio-cultural context, students' developmental age, and the integration of Islamic values taught. With the right approach and valid and reliable instruments, attitude assessment becomes an effective tool to support the formation of a complete Islamic character in students.

3.3 Analysis of Attitude Assessment Techniques and Instruments at the Education Level

3.3.1 Attitude Assessment Techniques and Instruments at the Primary Education Level

At the primary education level, learners' characters are in the early stages of moral and ethical development.²⁷ They tend to adopt values from their immediate environment, such as family, school and community. Therefore, attitude assessment at this level focuses

²⁶ Sukiman, *Pengembangan Sistem evaluasi* (Yogyakarta: Insan Madani, 2012).

²⁷ Muhammad Fajri, *Pengembangan moral dan karakter di Sekolah Dasar* (Guepedia, 2019).

on developing basic values such as honesty, discipline, responsibility and empathy.²⁸ Common techniques used to assess attitudes at this level include behavioral observations, simple Likert scales, anecdotal assessments, and teacher daily journals.

First, behavioral observation allows teachers to record learners' attitudinal expressions directly in real situations, such as when interacting with peers or when completing group tasks. This technique is considered authentic, but is prone to observer bias and less systematic if not supported by clear assessment tools. *Second*, a simple Likert scale is used to measure attitudinal tendencies towards a particular value. Simplified versions, such as using smiley faces, are easier for children to understand, but have limitations in capturing the nuances of complex attitudes. *Third*, anecdotal assessments and daily journals allow for qualitative documentation of behavior but often rely on the subjective perceptions of the teacher.²⁹ In terms of instruments, attitude rubrics and observation sheets are often used to clarify indicators and maintain consistency in assessment.³⁰

Although these techniques are quite effective in conventional contexts, they still have limitations, especially in terms of quantification of attitude data, longitudinal tracking of progress, and explicit integration of Islamic values in the assessment indicators.³¹ Several previous studies have also highlighted the weakness of attitude assessment at various levels of Islamic education, which is still descriptive and less systematic. This shows the gap between the character assessment policy in the national curriculum and the assessment practices that occur in the field.

This finding reinforces the urgency of the research objective, which is to explore and develop more innovative, structured, and contextualized attitude assessment techniques and instruments, especially those that are able to integrate Islamic principles such as akhlak karimah, tazkiyah al-nafs, and tarbawiyah values into the assessment design.³² In the context of the Merdeka Curriculum, which emphasizes strengthening the Pancasila learner profile and spiritual character, the exploration of new technology-based techniques and holistic approaches is becoming increasingly relevant. Literature such as Nasution and Rahmawati also emphasize the importance of digitizing attitudinal assessment and the need for instruments that are able to bridge affective outcomes with Islamic values, which are the main objectives of Islamic education.

Thus, this discussion not only answers the needs of assessment at the basic education level, but also underlies the need for more adaptive and value-based innovations in the practice of assessing students' attitudes in Islamic education.

3.3.2 Attitude Assessment Techniques and Instruments at the Secondary Education Level

The character of learners in secondary education is at a more complex stage of psychological development. In this phase, they begin to show more mature critical thinking, social awareness, and collaboration skills. Therefore, the focus of attitude

²⁸ Riza Mi'rotul Rohmah dan Rohmatul Azizah, "Peran Pendidikan Holistik Bagi Pengembangan Karakter Anak Usia Dini," *Jurnal Dimensi Pendidikan dan Pembelajaran* 11, no. 1 (2023): 154–65.

²⁹ Rizki Apriyanti, "Evaluasi berbasis portofolio," *Jurnal Ilmiah Pendidikan Dan Humaniora* 5, no. 5 (2021).

³⁰ Mujadi Mujadi, "Pengembangan Instrumen Penilaian Sikap Sebagai Upaya Optimalisasi Penerapan Nilai-Nilai Yang Terkandung Dalam Akidah Akhlak Kelas VI MI DI Kulon Progo," *Al-Bidayah: jurnal pendidikan dasar Islam* 11, no. 01 (2019): 137–74.

³¹ Sidik Awaludin et al., "The Relationship of Online Learning and Information Technology with Cognitive, Affective, and Psychomotor Abilities," *Jurnal Keperawatan Indonesia* 27, no. 3 (2024): 186–94, doi:10.7454/jki.v27i3.1227.

³² Huda, "Islamic philosophy and ethics of education: Al-zarnūjī's concept of ta'zīm in his ta'lim al-muta'allim."

assessment at this level is directed at developing reflective attitudes, responsibility, and active engagement in social interaction and collaboration. Learners also begin to have an awareness to reflect on their own attitudes and behaviors as part of a more complete character building process.

Some of the conventional techniques commonly used in attitude assessment at this level include self-assessment, peer assessment, attitude scale questionnaires, and attitude portfolios.³³ Self-assessment provides space for students to assess their own strengths and weaknesses in the attitudinal domain, thus encouraging personal awareness and responsibility for character development. Peer assessment allows for peer feedback, which is important for shaping social attitudes and empathy. Meanwhile, attitude scale questionnaires are used to measure students' inclination towards values such as responsibility, honesty or cooperation, and attitude portfolios serve as ongoing documentation of students' attitude development through various reflective and collaborative activities.

The instruments used in this assessment process include an attitude questionnaire and a self-reflection report.³⁴ Attitude questionnaires usually contain a number of statements that students respond to using a Likert scale, such as "I complete assignments on time" with answer options from "strongly disagree" to "strongly agree". Meanwhile, self-reflection reports ask students to write narratives about how they behave in certain contexts, such as when completing group tasks or dealing with social conflicts.

While these techniques are useful in supporting affective assessment, a number of studies have shown that these conventional methods still have weaknesses. For example, self- and peer-assessment are often not objective due to internal biases and social relationships between students.³⁵ Attitude scale questionnaires also tend to assess statically and do not capture the dynamics of attitude change contextually. In addition, attitude portfolios require time and qualified teacher skills to analyze in depth. In the context of Islamic education, aspects of spirituality and Islamic values such as honesty, trustworthiness, and manners towards others are often not fully captured in the assessment techniques currently available.

Therefore, this finding emphasizes the urgency and relevance of the research objectives, namely to explore and develop innovations in attitude assessment techniques and instruments that are not only more systematic and effective, but also able to integrate Islamic education values substantially.³⁶ This innovation is important in supporting the achievement of the Merdeka Curriculum goals and forming a generation of Islamic students with strong, reflective, and contributive characters in the midst of increasingly complex social dynamics

3.3.3 Attitude Assessment Techniques and Instruments at the Higher Education Level

Learners at the higher education level are at a more mature and complex stage of intellectual development. They have a deep understanding of the professional world and

³³ Badrun Kartowagiran dan Amat Jaedun, "Model asesmen autentik untuk menilai hasil belajar siswa sekolah menengah pertama (SMP): Implementasi asesmen autentik di SMP," *Jurnal penelitian dan evaluasi pendidikan* 20, no. 2 (2016): 131–41.

³⁴ Lies Pebruanti dan Sudji Munadi, "Peningkatan motivasi dan hasil belajar pada mata pelajaran pemograman dasar menggunakan modul di SMKN 2 Sumbawa," *Jurnal pendidikan vokasi* 5, no. 3 (2015): 365–76.

³⁵ Sebastianus Widanarto Prijowuntato, *Evaluasi pembelajaran* (Sanata Dharma University Press, 2020).

³⁶ Mohammad Ramli et al., "Foundations and Contemporary Relevance of Salafi Islamic Education in Indonesia : Principles , Curriculum , and Moral Development," *Heutagogia: Journal of Islamic Education* 4, no. 2 (2024): 287–99, doi:10.18860/ua.v17i1.3252.5.

academic ethics, which makes attitude assessment at this level not only important but also strategic in shaping the character of graduates who are ready to compete globally. The focus of assessment at this stage is directed at developing professional attitudes, academic ethics, and soft skills such as communication, leadership, teamwork, and critical thinking. The aim of this research, which is to explore innovative attitude assessment techniques and instruments, is important because conventional methods such as passive observation and standardized rating scales often fail to capture the complex attitudinal dimensions that develop at this level.

The techniques used to assess attitudes in higher education have evolved towards approaches based on active participation and critical reflection. The first is case study and discussion groups, which assess students' professional attitudes in dealing with real-life problems relevant to their field of expertise. Through these forums, skills such as cooperation, leadership and empathy are tested in a collaborative context. Second, project-based assessments and presentations provide opportunities for students to practice responsibility, effective communication, and professional ethics in presenting their work publicly. Third, reflective analysis and interviews, which facilitate students to consciously evaluate the values, experiences and attitudes they develop during the learning process.³⁷ This technique is in line with the contextual formative assessment approach found in McMillan's book, which emphasizes the importance of reflection in real contexts to strengthen self-awareness and character development.

The instruments used at this stage also demand measurability and flexibility. The presentation rubric, for example, assesses the ability to convey ideas systematically, accuracy of communication, and professional ethics and demeanor when performing in front of an audience. Case study reports, on the other hand, are a form of authentic assessment that measures students' analytical skills and professional attitudes in solving real-world problems, as well as collaborative abilities in teams. The advantage of this approach is its ability to capture affective aspects contextually and deeply, not only in the declarative domain, but in the real behavior of students.

This finding extends the insights of Supratiknya's study, which previously emphasized the importance of values and attitudes dimensions in higher education, by showing that adaptive and context-based approaches can be more effective than traditional techniques. In addition, this study supports the findings of McMillan et al. in Q1 international literature, which stated that contextualized and authentic experience-based assessments significantly promote students' character building and self-awareness.

The implications of this finding are very important in the context of Islamic education policy and curriculum development in madrasah and pesantren. *First*, for madrasah or pesantren teachers, this approach can be a reference in conducting affective assessments that are efficient and relevant to the conditions of students. *Second*, for Islamic education curriculum developers, these results can be used as a basis in formulating attitude indicators that are more contextual and applicable. *Third*, for Islamic education institutions, these findings support the need for technology-based teacher training design and reflective assessment to make the value education process more effective and meaningful.

³⁷ Kadek Agus Bayu Pramana dan Dewa Bagus Ketut Ngurah Semara Putra, *Merancang penilaian autentik* (Cv. Media Educations, 2019).

3.4 Techniques and Instrument Innovations in Technology-based Attitude Assessment and based on Adaptive Instrument Development

3.4.1 Techniques and Instrument Innovations in Technology-based Attitude Assessment

Innovations in technology-based attitude assessment techniques and instruments show significant potential in improving the efficiency and accuracy of assessing learners' affective aspects. The use of digital applications and platforms such as Google Forms and Survey Monkey enables real-time data collection, minimizes human error, and accelerates the process of analysis and feedback to learners.³⁸ Furthermore, the integration of artificial intelligence (AI) in attitude assessment enables the analysis of students' behavior patterns and attitude tendencies through data from surveys, self-assessments, or online interactions. AI can detect significant changes in students' attitudes, providing deep insights into their affective development.

This finding extends the insights of previous studies, such as the one conducted by Supratiknya in 2011, which emphasized the importance of integrating affective assessment in Islamic education to shape learners' characters that are cognitively, affectively and spiritually balanced. However, the conventional approach used in that study has not utilized digital technology and AI, which are now proven to improve the effectiveness and efficiency of attitude assessment. The study by Mukhlisin in 2024, also showed that the use of Likert scales in affective assessment at MAN Palopo is still manual and requires a long time in the data analysis process.³⁹

The implications of these findings in the context of Islamic education policy, particularly in madrasah and pesantren, are significant. First, teachers can utilize digital platforms to conduct affective assessments more efficiently, allowing them to provide quick and precise feedback to learners. Second, Islamic Religious Education (PAI) curriculum developers can develop more measurable and data-driven attitude indicators, utilizing AI analysis to deeply understand students' attitude development. Third, Islamic education institutions can design technology-based teacher training, equipping them with skills in using digital and AI tools for attitude assessment, thereby improving the overall quality of education.

Thus, the integration of digital technology and AI in attitude assessment not only addresses the challenges in assessing the affective aspects of learners, but also opens up opportunities for transformation in Islamic education practices that are more adaptive and responsive to the times.

3.4.2 Techniques and Instrument Innovations in Technology-based Attitude Assessment

Innovation in analyzing techniques and instruments in attitude assessment based on the development of adaptive instruments is a response to the various limitations of conventional approaches that have been used in assessing the affective aspects of students. One of the unexpected findings in this study is that the effectiveness of conventional assessment instruments decreases significantly when used in educational contexts with diverse learner characteristics, especially in madrasah and pesantren environments that have different social and cultural backgrounds. This indicates a gap between the design of uniform assessment instruments and the individual and contextual needs of learners.

Adaptive attitude assessment instruments, as developed in some innovative practices, are able to be adapted to the context, age, and moral and social needs of the

³⁸ Nurul Ariza dan Qorina Khoirul Afifah, "Penggunaan Teknologi Dalam Pengembangan Asesmen Pembelajaran Pendidikan Agama Islam," *Belajea: Jurnal Pendidikan Islam* 9, no. 1 (2024): 25–44.

³⁹ Mukhlisin, "Affective Education Assessment in Islamic Religious Education," *JIM Jurnal Ilmiah Mahasiswa Pendidikan Sejarah* 9, no. 4 (2024): 1181–95, doi:10.24815/jimps.v9i4.33716.

learners.⁴⁰ These instruments can be questionnaires, rubrics or observations, and are developed to reflect learning experiences that are relevant to learners' lives. For example, in higher education, attitude assessment is directed at evaluating professional attitudes, academic ethics, and soft skills in the context of work or research. Whereas at the basic education level, assessment focuses more on aspects of honesty, discipline and responsibility.⁴¹

The findings of this study extend the understanding of Supratiknya's (2011) study, which revealed that many affective assessment instruments are not sensitive enough to capture the dynamics of learners' attitude changes because they still use a one-way approach. This study supports this view by showing that an adaptive approach, which considers cultural background, learner characteristics and social context, is more effective in measuring and developing affective aspects. This study also aligns with international research by McMillan et al., which emphasizes the importance of context-based formative assessment to increase students' self-awareness and the effectiveness of character development in value-based education.⁴² In addition, research by Yan and Brown in the journal *Assessment in Education: Principles, Policy & Practice* confirms that adaptive assessment not only increases the validity of attitude measurement, but also strengthens learner engagement through content relevance and flexibility of approach.

The implications of these findings in the context of Islamic education policy, madrasah, and pesantren are very significant. *First*, madrasah and pesantren teachers can implement affective assessment more efficiently and relevantly, by using instruments that are in accordance with the local characteristics of students and technology-based.⁴³

Second, PAI curriculum developers can design attitude indicators that are more contextual, flexible, and able to reflect Islamic values in students' real lives. *Third*, Islamic education institutions can direct teacher training towards mastering technology-based assessment techniques and developing adaptive instruments that can answer the challenges of affective assessment in the digital era.⁴⁴ Thus, this adaptive instrument innovation not only improves data accuracy and learner engagement, but also provides a new direction for Islamic education policy in developing an attitude evaluation system that is holistic, contextual, and based on Islamic values that live in their learning environment.⁴⁵

4. Discussion

This study aimed to analyze the innovations in attitude assessment across various levels of Islamic education, with a focus on instruments and techniques that integrate Islamic values meaningfully. The need for such innovation arises from the documented

⁴⁰ Winda Astuti, Drajat Friansyah, dan Eric Salman, "Pengembangan Modul Pembelajaran Adaptif bagi Anak Berkebutuhan Khusus Di Sekolah Luar Biasa Negeri Kota Lubuklinggau," *Silampari Journal Sport* 1, no. 2 (2021): 77–99.

⁴¹ Vony Agustin, "Kompetensi Lulusan Sarjana Strata 1 (S1) Psikologi dalam Menghadapi Dunia Kerja Pada Mahasiswa Perguruan Tinggi 'X,'" *Calyptra* 1, no. 1 (2013): 1–34.

⁴² James H. McMillan/Ikon, *Assessment Information in Context.*, taylorfrancis (Dewan Nasional Pengukuran dalam Pendidikan (NCME), 2019), doi:10.4324/9780429507533-6.

⁴³ Sri Sumarni et al., "The Urgency of Cyber Education in Islamic Education for Indonesia 's Golden Generation 2045 : A Conceptual Analysis," *Heutagogia: Journal of Islamic Education* 4, no. 2 (2024): 253–67, doi:10.1145/2874239.2874266.2.

⁴⁴ Sabingatun Dewi Masitoh dan Dwi Purbowati, "Enhancing Teacher Professionalism in Indonesia : Challenges and Strategies for Digital Technology Utilization in the Society 5 . 0 Era," *Heutagogia: Journal of Islamic Education* 4, no. 2 (2024): 219–36.

⁴⁵ Trianto Ibnu Badar Al-Tabany, *Mendesain model pembelajaran inovatif, progresif, dan kontekstual* (Prenada Media, 2017).

limitations of conventional affective assessments, which often fail to capture students' character development in an authentic and contextual manner. Prior research has indicated that affective assessment in madrasah and pesantren remains largely descriptive and unstructured, lacking systematic integration with Islamic principles.⁴⁶ Moreover, the Merdeka Curriculum's emphasis on the Pancasila learner profile and spiritual development necessitates a reconfiguration of affective assessments to better align with national educational goals. Therefore, this research addresses a critical gap by offering an empirical foundation for the development of relevant, reliable, and value-based assessment models across Islamic educational settings.

The results of the study revealed important patterns in the assessment practices at primary, secondary, and tertiary levels. At the primary level, techniques such as behavioral observation and anecdotal records were prevalent but limited in systematization and value integration. At the secondary level, while more complex instruments like self- and peer-assessment were employed, they often suffered from subjectivity and inadequate alignment with Islamic character values. In higher education, reflective and project-based assessments showed greater contextual validity, yet they remained inconsistently implemented. Notably, this study also found significant advancements through technology-based and adaptive instruments that allow for more accurate, efficient, and context-responsive assessments of students' attitudes.

When compared to prior research, this study extends earlier findings by incorporating Islamic educational principles into the assessment discourse more explicitly. While Saftari and Fajriah noted the utility of Likert-based scales for affective evaluation, this research confirms their limitations in capturing behavioral nuances, especially in spiritual and ethical domains.⁴⁷ Furthermore, the findings align with McMillan et al.'s emphasis on contextual formative assessments and affirm Yan and Brown's argument that adaptive instruments enhance both validity and student engagement.⁴⁸ However, in contrast to Apriyanti's endorsement of holistic portfolio assessments, this study reveals challenges in implementation due to time constraints and teacher readiness.⁴⁹ Thus, the results not only confirm but also refine the applicability of established assessment theories in Islamic education contexts.

The results at the primary education level underscore the importance of integrating authentic yet structured assessments that go beyond surface-level behavioral descriptions. Although tools such as teacher journals and simplified Likert scales provide insights into learners' character development, they often fail to capture the complexity of internalized Islamic values like *ikhlas* and *amanah*. The innovation lies in developing clearer rubrics and contextual indicators that embed these values in everyday classroom interactions. However, caution is needed in interpreting observational data, as teacher bias and inconsistent rubric application may compromise validity. Therefore, structured teacher training and instrument standardization are essential prerequisites for improving reliability and impact at this level.

In secondary education, the shift toward self-reflection and peer interaction signifies a promising direction, particularly for fostering social-emotional growth and

⁴⁶ Heni Rochimah, Muhammad Japar, dan Etin Solihatin, "Systematic Literature Review: The Effectiveness of Technology-Assisted Project-Based English Language Learning," *Participatory Educational Research* 12, no. 1 (2025): 195–221, doi:10.17275/per.25.11.12.1.

⁴⁷ Saftari, Maya, "Penilaian Ranah Afektif Dalam Bentuk Penilaian Skala Sikap Untuk Menilai Hasil Belajar."

⁴⁸ McMillanIkon, *Assessment Information in Context*.

⁴⁹ Apriyanti, "Evlauasi berbasis portofolio."

critical character traits. Yet, the challenges of subjectivity and inter-student bias in peer assessments remain considerable. Integrating spiritual self-assessment components rooted in Islamic ethics—such as evaluating sincerity, humility, and cooperation—could enhance the moral dimension of the assessment process. Moreover, reflective journaling and peer evaluation should be triangulated with teacher observations and digital analytics to balance subjective and objective data sources. This triangulation approach offers a more holistic understanding of student attitudes and allows for better alignment with the objectives of character education in Islamic schooling.

The findings in higher education reveal the highest level of maturity in attitude assessment practices, particularly in the use of project-based tasks and reflective evaluations. These methods enable students to internalize Islamic values in real-life academic and professional settings. However, the implementation remains inconsistent, and there is a need for institutional policies that embed these practices as integral parts of course assessments. Furthermore, training lecturers in affective pedagogy and ethical mentoring is essential to sustain meaningful character development beyond declarative knowledge. These insights are crucial, given that higher education graduates often represent the moral ambassadors of Islamic institutions in broader society.

Technological integration emerged as one of the most significant innovations, offering both efficiency and depth in affective assessment. Tools such as Google Forms, AI-based analytics, and digital portfolios allow educators to collect and analyze behavioral data in real time. These systems also facilitate individualized feedback, contributing to a more formative and responsive character-building process. In the Islamic education context, this approach supports the actualization of *akhlak karimah* through data-informed instruction. Nevertheless, the reliance on technology must be balanced with ethical considerations, including data privacy, student consent, and cultural sensitivity in digital environments.

Finally, the development of adaptive assessment instruments represents a transformative step in addressing the contextual variability across Islamic educational institutions. These instruments respond to the heterogeneity of learners' backgrounds, allowing for the inclusion of cultural and moral nuances specific to local pesantren and madrasah environments. By shifting from uniformity to contextual sensitivity, adaptive tools enhance the relevance and engagement of assessment practices. Importantly, this approach allows educators to embed Islamic values in ways that are meaningful and recognizable to learners' lived experiences. Consequently, adaptive assessment is not only a technical innovation but a philosophical reorientation toward a more humanistic and value-centered educational paradigm.

The implications of this study are far-reaching for Islamic education stakeholders. For educators, the findings provide concrete models for implementing affective assessments that are both efficient and spiritually grounded. For curriculum developers, the insights suggest pathways for integrating affective indicators into national policy frameworks that are compatible with Islamic educational goals. For institutions, particularly madrasah and pesantren, the research advocates for investment in technology and teacher capacity building to enable sustainable innovation in character assessment. As Islamic education seeks to navigate the demands of modernity while preserving its ethical foundations, innovations in attitude assessment represent a critical bridge. Ultimately, this study contributes to the construction of an assessment culture that is reflective, authentic, and deeply rooted in Islamic values.

5. Conclusion

This study examines innovations in attitude assessment across various levels of Islamic education, including primary and secondary schools, madrasahs, pesantrens, and higher education institutions. Its primary aim was to develop affective assessment techniques and instruments that are technically valid, reliable, contextually relevant, and capable of reflecting the core values of Islamic education such as honesty, patience, empathy, and responsibility. The findings indicate that conventional assessment methods—such as behavioral observations and anecdotal records at the primary level, self- and peer-assessment at the secondary level, and reflective analysis and presentations at the tertiary level—offer only partial effectiveness. These methods often suffer from limitations including observer bias, subjectivity, lack of longitudinal tracking, and insufficient integration of Islamic moral-spiritual values. Although these techniques capture certain attitudinal aspects, they often fail to measure the depth and complexity of character formation, particularly its ethical and spiritual dimensions. To address these shortcomings, the study proposes more structured, contextual, and value-based innovations in affective assessment. It introduces the use of digital platforms and artificial intelligence as tools to enhance real-time assessment and diagnostic precision of learners' attitudinal development. These innovations are especially timely within the framework of the Merdeka Curriculum, which places a strong emphasis on character education. However, the study also acknowledges several limitations. It focused only on selected instruments and institutional contexts and did not include longitudinal data that could provide deeper insights into long-term character development. Moreover, although the study identifies the potential of AI-driven assessments, empirical validation remains limited. Future research should incorporate longitudinal and mixed-method designs to examine the sustained impact of such innovations. There is also a critical need to refine AI-based tools tailored for Islamic education. This study contributes to advancing affective education by aligning assessment with the spiritual and ethical goals of Islamic pedagogy.

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