

INTEGRATED CURRICULUM MANAGEMENT MODEL OF MATHEMATICS AND ENGLISH BASED ON ISLAMIC EDUCATIONAL VALUES IN MADRASAH

Rahmi Anekasari¹, Alimatus Sholikhah², Rayinda Eva Rahmah³, Azzahra Lailatun Nahdi⁴

UIN K.H. Abdurrahman Wahid Pekalongan
alimatus.sholikhah@uingusdur.ac.id

ABSTRAK

Penelitian ini bertujuan untuk menganalisis dan mendeskripsikan model manajemen kurikulum terintegrasi antara Matematika dan Bahasa Inggris berbasis nilai-nilai pendidikan Islam di madrasah. Kajian ini dilatarbelakangi oleh masih adanya fragmentasi kurikulum serta dikotomi antara ilmu umum dan ilmu agama dalam praktik pendidikan madrasah. Penelitian ini menggunakan pendekatan kualitatif deskriptif untuk memperoleh pemahaman mendalam mengenai perencanaan, pelaksanaan, dan evaluasi kurikulum terintegrasi dalam konteks pembelajaran nyata.

Penelitian dilakukan di salah satu madrasah dengan melibatkan kepala madrasah, guru Matematika, guru Bahasa Inggris, dan koordinator kurikulum sebagai informan utama. Data dikumpulkan melalui wawancara mendalam, observasi, dan studi dokumentasi. Analisis data menggunakan model interaktif yang mencakup reduksi data, penyajian data, dan penarikan kesimpulan secara tematik.

Hasil penelitian menunjukkan bahwa manajemen kurikulum terintegrasi dilaksanakan melalui tiga tahap utama. Pertama, perencanaan kolaboratif dilakukan dengan menyelaraskan kompetensi mata pelajaran dengan visi keislaman madrasah. Kedua, pelaksanaan pembelajaran dilakukan secara kontekstual dan interdisipliner melalui penyisipan nilai kejujuran, tanggung jawab, disiplin, rasa syukur, dan kepedulian sosial. Ketiga, evaluasi mulai diarahkan untuk menilai aspek kognitif dan pembentukan karakter siswa.

Integrasi nilai Islam dalam pembelajaran Matematika dan Bahasa Inggris mampu meningkatkan keterlibatan siswa, memperkuat pemahaman konseptual, dan mendukung pembentukan karakter Islami. Namun, kendala masih ditemukan pada kompetensi guru dan instrumen evaluasi berbasis nilai. Penelitian ini menegaskan pentingnya dukungan manajerial dan kelembagaan dalam pengembangan kurikulum madrasah yang integratif, kontekstual, dan relevan dengan kebutuhan pendidikan global.

Kata kunci: Kurikulum, Pendidikan Agama Islam, Matematika, Bahasa Inggris, Madrasah

ABSTRACT

This study analyzed and described an integrated curriculum management model for Mathematics and English in Islamic educational values in madrasah. The study responds to the persistent fragmentation of curriculum practice and the dichotomy between general sciences and religious studies in one Islamic educational institution. A descriptive qualitative approach was used to examine how integrated curriculum management is planned, implemented, and evaluated in real learning contexts.

The research was conducted in a selected madrasah involving principals, Mathematics teachers, English teachers, and curriculum coordinators as key informants. Data were collected through in-depth interviews, classroom observations, and documentation studies. The data were analyzed using an interactive model consisting of data reduction, data display, and thematic conclusion drawing.

The findings show that integrated curriculum management is carried out through three main stages. First, curriculum planning is developed collaboratively by aligning subject competencies with the Islamic vision of the madrasah. Second, implementation is conducted through contextual and interdisciplinary learning that connects Mathematics and English with Islamic values such as honesty, responsibility, discipline, gratitude, and social care. Third, evaluation begins to assess not only cognitive achievement but also students' affective and character development.

The integration of Islamic values in Mathematics and English learning strengthens student engagement, supports conceptual understanding, and contributes to character formation. However, challenges remain, particularly in teacher competence, learning resource development, and value-based assessment instruments. This study implies that Islamic values-based curriculum integration requires systematic managerial support, teacher collaboration, and institutional commitment to produce holistic, contextual, and relevant madrasah education.

Keywords: Curriculum, Islamic Religious Education, Mathematics, English Language, Madrasa.

INTRODUCTION

Curriculum integration has become a major concern in contemporary educational reform as a response to the growing demand for holistic, contextual,

and 21st-century competency-oriented learning. Subject-based curriculum approaches that are fragmented are increasingly considered inadequate because they tend to separate knowledge into rigid disciplinary boundaries, limiting students' ability to construct meaning and apply knowledge across contexts (Drake & Reid, 2018; Beane, 1997). In the context of globalization and the knowledge-based economy, mastery of Mathematics and English has become two important pillars that not only support academic achievement but also broaden students' access to global literacy and social mobility (OECD, 2021; Schleicher, 2018). Therefore, a curriculum model is needed that not only integrates content but also connects cognitive competencies with values, attitudes, and interdisciplinary skills.

In the context of Islamic education, especially in madrasahs, the urgency of curriculum integration becomes even more complex. This is due to the strong epistemological dichotomy that still exists between religious sciences and general sciences. Islamic educational philosophy emphasizes the principle of *tawhid* (unity of knowledge), which requires the integration of intellectual, spiritual, and moral dimensions in the educational process (Al-Attas, 1993; Al-Faruqi, 1982). However, the reality in the field shows that subjects such as Mathematics and English are often taught separately from Islamic values, thereby losing the ethical and spiritual dimensions that should characterize madrasah education (Halstead, 2004; Ashraf, 1985). This condition affects the less-than-optimal holistic character formation of students and limits their ability to connect knowledge with Islamic life values.

Several previous studies have examined curriculum integration from various perspectives, such as teacher collaboration in interdisciplinary learning (Vangrieken et al., 2017), value- and character-based education (Arthur et al., 2017), and language integration in mathematics learning (Prediger & Zindel, 2017). In addition, studies on Content and Language Integrated Learning (CLIL) show that integrating language and content can improve students' conceptual understanding (Coyle et al., 2010). However, most of these studies are still partial and have not developed a comprehensive curriculum management framework, particularly in the context of Islamic education. Existing research tends to focus on classroom implementation aspects without systematically examining how the processes of planning, organizing, implementing, and evaluating integrated curricula can be

designed and implemented sustainably at the institutional level (Print, 1993; Ornstein & Hunkins, 2018).

Curriculum integration has become a primary focus in contemporary educational reform as a response to the demands for holistic, contextual, and 21st-century competency-oriented learning. Fragmented discipline-based curriculum models are considered no longer adequate because they tend to separate knowledge into rigid boundaries, thereby hindering students' ability to construct meaning in an integrative and applicable manner (Drake & Reid, 2018; Beane, 1997). In the context of globalization and the knowledge-based economy, mastery of Mathematics and English has become an essential competency that supports academic success as well as global participation (OECD, 2021; Schleicher, 2018). Therefore, the integration of these two subjects within an integrated curriculum framework has become a strategic necessity, particularly in establishing connections between numeracy skills, literacy, and global communication.

In the context of Islamic education, particularly in madrasahs, curriculum integration faces more complex challenges due to the dichotomy between religious sciences and general sciences. Islamic educational philosophy emphasizes the principle of *tawhid* as the foundation of the unity of knowledge, integrating intellectual, spiritual, and moral dimensions (Al-Attas, 1993; Al-Faruqi, 1982). However, educational practices in madrasahs still tend to separate general subjects such as Mathematics and English from Islamic values (Halstead, 2004; Ashraf, 1985). This condition results in learning processes that are less capable of developing students holistically, both cognitively and affectively, and have not fully reflected the integrative identity of Islamic education.

Several previous studies have examined curriculum integration from various perspectives, such as teacher collaboration in interdisciplinary learning (Vangrieken et al., 2017), value- and character-based education (Arthur et al., 2017), and language integration in mathematics learning (Prediger & Zindel, 2017). In addition, studies on Content and Language Integrated Learning (CLIL) show that integrating language and content can improve students' conceptual understanding (Coyle et al., 2010). However, most of these studies are still partial and have not developed a comprehensive curriculum management framework, particularly in the

context of Islamic education. Existing research tends to focus on classroom implementation aspects without systematically examining how the processes of planning, organizing, implementing, and evaluating integrated curricula can be designed and implemented sustainably at the institutional level (Print, 1993; Ornstein & Hunkins, 2018).

Based on these studies, there is a significant research gap in developing an integrated curriculum management model that simultaneously combines Mathematics and English based on Islamic educational values in madrasahs. Existing studies have not widely developed a systemic and operational model capable of bridging the integration of academic content, Islamic values, and curriculum management practices comprehensively (Azra, 2012; Muhaimin, 2009). Therefore, the research questions are formulated as follows: (1) What is the conceptual model of integrated curriculum management for Mathematics and English based on Islamic educational values in madrasahs? (2) How is the model implemented in classroom practice? and (3) How effective is the model in improving learning quality and internalizing Islamic values?

This study aims to develop an Integrated Curriculum Management Model of Mathematics and English Based on Islamic Educational Values in Madrasah. The novelty of this study lies in the development of a curriculum management model that not only integrates two core subjects but also internalizes Islamic values throughout the curriculum management cycle, including planning, implementation, and evaluation (Tyler, 1949; Ornstein & Hunkins, 2018). Furthermore, this study offers a systemic approach that connects pedagogical, curricular, and value dimensions into a unified framework, distinguishing it from previous fragmented studies (Fullan, 2007).

Methodologically, this study employed a descriptive qualitative approach to gain a deep understanding of the practices and management of Mathematics and English curriculum integration based on Islamic educational values in madrasahs. This approach was selected because it can explore phenomena contextually and holistically based on the perspectives of educational practitioners (Creswell & Creswell, 2018). Data were collected through in-depth interviews, participatory observations, and documentation studies. Data analysis was conducted thematically

using an interactive model consisting of data reduction, data display, and conclusion drawing (Miles et al., 2014). The focus of the study was directed toward how planning, implementation, and evaluation of the integrated curriculum are carried out and how Islamic values are internalized within the process.

DISCUSSION

The integration of Islamic values into learning in madrasahs is part of a well-directed institutional policy. The principal explained that curriculum integration is not merely interpreted as combining subjects, but also as an effort to align all learning processes with Islamic values such as honesty, responsibility, and social care. In addition, curriculum planning is conducted collaboratively among teachers so that competency achievements remain fulfilled while aligning with the Islamic vision of the madrasah.

From a managerial perspective, the vice principal for curriculum explained that integrated curriculum management is implemented through stages of planning, implementation, and evaluation that refer to Islamic educational values. Learning evaluation is not only focused on cognitive aspects but is also directed toward students' character formation. This indicates a systematic effort by the madrasah to ensure that the integration of Islamic values occurs not only at the classroom practice level but also within the overall curriculum management system.

Based on interviews with English and Mathematics teachers at Madrasah Aliyah Muhammadiyah Pekajangan, the integration of Islamic Religious Education values into general subjects has been implemented through two main patterns. First, integration is carried out through religious habituation in learning activities. Second, integration is conducted through the contextual insertion of Islamic values into learning materials, classroom activities, and classroom management. The English teacher explained that at the opening stage, learning activities always begin with collective prayer and attendance checking. In this process, the teacher also encourages students to pray for classmates who are absent due to illness, so that values of care and social empathy are instilled from the beginning of the lesson. In addition, the Mathematics teacher stated that although an Islamic values-based curriculum has begun to be introduced, its implementation has not yet been

explicitly stated in lesson plans or teaching materials. Therefore, integration is mostly carried out contextually through the cultivation of values such as gratitude, accuracy, and honesty, which are connected to learning activities and students' real-life experiences. These interview findings indicate that the implementation of Islamic values integration does not only appear in religious subjects, but has also been incorporated into general learning practices, particularly in English and Mathematics subjects, through simple, routine, and madrasah-oriented strategies.

Based on the interview results in the English subject, the integration of Islamic values appears more systematic because the teacher applies them in three stages of learning activities: the opening, the core, and the closing activities. In the opening activity, the teacher habituates students to recite prayers before the lesson begins. This activity functions not only as an opening routine for the lesson but also as a means of instilling spiritual awareness in students. The teacher also checks students' attendance. When there are students absent due to illness, the teacher invites the other students to pray for their recovery. This practice demonstrates that English learning does not merely function as an academic activity, but also serves as a space for fostering empathy, social care, and *ukhuwah Islamiyah* (Islamic brotherhood).

In the core activities of English learning, the teacher integrates Islamic values contextually through text materials and the learning process. Values such as honesty, responsibility, and care are instilled when students read, understand, and complete English text-based assignments. The teacher encourages students to be honest in completing their tasks, avoid copying their classmates' answers, and take responsibility for their own learning outcomes. Thus, English learning is directed not only toward mastering language skills such as reading, writing, speaking, and listening, but also toward developing attitudes that are aligned with Islamic values.

In the closing activity, the teacher ends the lesson by reciting the *kafaratul majlis* prayer. This activity demonstrates that religious values are consistently cultivated from the beginning until the end of the learning process. The closing prayer functions as a form of spiritual reflection after the learning activities have been completed. Through this practice, students are accustomed to perceiving the

learning process as part of worship and moral responsibility. This pattern shows that the integration of Islamic values in English learning is carried out not only through the lesson content, but also through a religious classroom culture.

In addition to classroom activities, the integration of Islamic values in English learning is also strengthened by the madrasah educational system. Madrasah Aliyah Muhammadiyah Pekajangan implements a boarding school program that supports the development of students' religious character. In this program, students receive special religious subjects that are conducted alongside general subjects. The regular implementation of religious learning, which takes place once a week, reinforces the internalization of Islamic values. This program provides students with opportunities to gain more comprehensive learning experiences because general education and religious education complement one another.

The findings in the English subject indicate that the integration of Islamic values has been implemented through habituation and contextual approaches. The habituation approach can be seen in the routines of prayer, greetings, and spiritual reflection. Meanwhile, the contextual approach is reflected in the integration of Islamic values into learning materials and classroom activities. This pattern strengthens the role of the madrasah as an educational institution that emphasizes not only cognitive achievement but also moral and character development. In this context, the teacher functions both as an academic facilitator and as a mentor for students' character formation.

Meanwhile, in the Mathematics subject, the integration of Islamic values has begun to be implemented, although it is still at the stage of introduction and gradual reinforcement. Based on interviews with the Mathematics teacher, the madrasah has introduced a curriculum based on *Rahmatan lil Alamin*. However, its implementation has not yet been fully formulated explicitly in Mathematics learning tools. The integration of Islamic values still mostly appears in the opening and closing activities of learning, such as greetings, prayers, and the recitation of *hamdalah*. Teachers have also started incorporating values of religious moderation as part of students' character development within the learning process.

In Mathematics learning, teachers have not yet found specific Muhammadiyah elements explicitly written in lesson plans or national textbooks. The textbooks used are still general in nature and do not directly relate Mathematical concepts to Islamic values. This condition indicates that the integration of Islamic values in Mathematics still depends heavily on teachers' creativity. Teachers need to independently interpret integration opportunities that are relevant to the subject matter, classroom context, and students' characteristics. In other words, the integration is not yet fully based on curriculum documents, but rather on teachers' pedagogical practices in the classroom.

Nevertheless, Mathematics teachers have utilized contextual activities to instill Islamic values. Activities such as cultivating maggots, catfish, and chickens are used as media for reflecting on gratitude, observing Allah's creations, and developing environmental awareness. These activities demonstrate that Mathematics can be connected to students' real-life experiences. For example, teachers can relate observations of plant growth to the concept of linear regression, including the relationship between sunlight exposure and plant development. Through these activities, students not only understand mathematical concepts, but are also encouraged to observe the order of nature as part of the signs of Allah's greatness.

The integration within Mathematics learning can also be seen through the learning strategies employed by teachers. Teachers apply educational games such as Wordwall, ice-breaking activities, and group discussions to reduce students' boredom. These strategies help students become more active in the learning process. The use of tablets or Chromebooks for each group, as well as Smart TVs in female students' classrooms, also supports more interactive learning. In addition, the separation of male and female classes reflects classroom management that is aligned with the characteristics of madrasah education. Although this aspect does not directly explain the integration of Mathematical concepts with Islamic values, these practices indicate that the learning environment is developed in accordance with Islamic institutional values and culture.

The findings in the Mathematics subject indicate that the integration of Islamic values is still implicit in nature. The integration mostly appears in the form of religious habituation, value reflection, and the management of learning activities. The relationship between Mathematical concepts and Islamic teachings has not yet been explicitly incorporated into teaching materials or learning tools. This becomes an important concern because Mathematics has great potential to be integrated with Islamic values, particularly through the study of the order of nature, fairness in measurement, accuracy, honesty in calculation, and responsibility in problem-solving.

In comparison, the integration of Islamic values in English learning appears to be more structured than in Mathematics learning. In English classes, teachers have implemented the integration of Islamic values in the opening, core, and closing stages of learning. Values such as honesty, responsibility, care, and spirituality can be directly incorporated into the processes of understanding texts and completing assignments. In Mathematics, however, the integration is still more dominant in habituation practices and contextual activities. Teachers have attempted to connect learning with values of gratitude and observation of nature, but the relationship between Mathematical materials and Islamic values has not yet been explicitly formulated in learning documents.

Overall, the findings of this study indicate that Madrasah Aliyah Muhammadiyah Pekajangan has developed a learning environment that supports the integration of general knowledge and Islamic values. Teachers do not separate academic learning from character formation. English and Mathematics learning continue to focus on mastery of subject competencies, while simultaneously instilling religious values, empathy, responsibility, honesty, gratitude, and care. This integration is important because madrasahs have the mandate to develop students who excel academically and possess Islamic character.

However, this study also found that the integration of Islamic values into general subjects still needs to be developed more systematically. The integration implemented by teachers has functioned well at the classroom practice level, but it has not yet been comprehensively documented in learning tools. In the Mathematics

subject, in particular, teachers still require more operational guidance so that Islamic values can be connected to basic competencies, learning indicators, materials, activities, and evaluations. The development of modules, lesson plans (RPP), student worksheets (LKPD), and assessment instruments containing indicators of Islamic values could become a strategic step in strengthening such integration.

Thus, the integration of English and Mathematics with Islamic values at Madrasah Aliyah Muhammadiyah Pekajangan can be understood as an evolving process. The integration has appeared in religious routines, classroom culture, learning strategies, and contextual activities. English learning demonstrates a more explicit pattern of integration throughout the stages of learning activities. Meanwhile, Mathematics learning demonstrates a more implicit pattern of integration through habituation, reflection, and the use of environmental contexts. Both subjects reflect the madrasah's commitment to developing education that emphasizes not only mastery of knowledge but also the formation of students' Islamic character.

CONCLUSION

Based on the results of interviews and observations, the integration of English and Mathematics with Islamic values at Madrasah Aliyah Muhammadiyah Pekajangan has been implemented through religious habituation, the cultivation of Islamic values, and the strengthening of madrasah culture. This integration does not alter the substance of general subjects, but rather provides a value foundation so that the learning process is not solely oriented toward academic mastery. Learning is directed toward shaping students who are religious, honest, responsible, caring, disciplined, and able to perceive knowledge as part of worship.

In English learning, the integration of Islamic values appears more systematic because it is applied in the opening, core, and closing stages of learning. Teachers habituate students to pray before learning, check attendance, encourage students to pray for sick classmates, instill values of honesty and responsibility in completing assignments, and close lessons with the *kafaratul majlis* prayer. These practices

indicate that English learning not only develops language skills, but also shapes manners, empathy, and Islamic character in communication.

In Mathematics learning, the integration of Islamic values is still gradual and appears more frequently in the form of habituation and value reflection. Teachers begin lessons with greetings and prayers, end with *hamdalah*, and connect learning with values such as gratitude, accuracy, honesty, and responsibility. Contextual activities such as cultivating maggots, catfish, chickens, and observing plant growth provide opportunities to connect Mathematical concepts with the order of Allah's creation. However, the integration of Mathematics with Islamic values has not yet been fully and explicitly written in lesson plans, teaching materials, or national textbooks.

Overall, the integration of Islamic values into general subjects in this madrasah has shown positive progress. The boarding school program has become an important supporting factor because it strengthens students' religious development outside the classroom. Nevertheless, this integration still needs to be developed more systematically. The madrasah needs to design learning tools that clearly include indicators of Islamic values in objectives, materials, methods, activities, and evaluations. With such reinforcement, the integration of English and Mathematics with Islamic values can become a more comprehensive, directed, and relevant learning model aligned with the goals of Islamic education in madrasahs.

REFERENCES

- Al-Attas, S. M. N. (1993). *Islam and secularism*. ISTAC.
- Al-Faruqi, I. R. (1982). *Islamization of knowledge: General principles and work plan*. IIIT.
- Arthur, J., Kristjánsson, K., Walker, D., Sanderse, W., & Jones, C. (2017). *Character education in UK schools*. University of Birmingham.
- Ashraf, S. A. (1985). *New horizons in Muslim education*. Hodder & Stoughton.
- Azra, A. (2012). *Pendidikan Islam: Tradisi dan modernisasi di tengah tantangan milenium III*. Kencana.

- Beane, J. A. (1997). *Curriculum integration: Designing the core of democratic education*. Teachers College Press.
- Coyle, D., Hood, P., & Marsh, D. (2010). *CLIL: Content and language integrated learning*. Cambridge University Press.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE.
- Drake, S. M., & Reid, J. L. (2018). Integrated curriculum as an effective way to teach 21st century capabilities. *Asia Pacific Journal of Educational Research*, 1(1), 31–50.
- Fullan, M. (2007). *The new meaning of educational change* (4th ed.). Teachers College Press.
- Halstead, J. M. (2004). An Islamic concept of education. *Comparative Education*, 40(4), 517–529.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. SAGE.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). SAGE.
- Muhaimin. (2009). *Rekonstruksi pendidikan Islam*. RajaGrafindo Persada.
- Nata, A. (2013). *Ilmu pendidikan Islam*. Kencana.
- OECD. (2021). *Education at a glance 2021: OECD indicators*. OECD Publishing.
- Ornstein, A. C., & Hunkins, F. P. (2018). *Curriculum: Foundations, principles, and issues* (7th ed.). Pearson.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). SAGE.
- Prediger, S., & Zindel, C. (2017). School academic language demands for understanding functional relationships. *EURASIA Journal of Mathematics, Science and Technology Education*, 13(7b), 4157–4188.
- Print, M. (1993). *Curriculum development and design*. Allen & Unwin.
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, 23(4), 334–340.
- Schleicher, A. (2018). *World-class: How to build a 21st-century school system*. OECD Publishing.
- Senge, P. M. (2006). *The fifth discipline: The art and practice of the learning organization*. Doubleday.

Tyler, R. W. (1949). *Basic principles of curriculum and instruction*. University of Chicago Press.

Vangrieken, K., Dochy, F., Raes, E., & Kyndt, E. (2017). Teacher collaboration: A systematic review. *Educational Research Review*, 21, 17–40.

Zubaedi. (2011). *Desain pendidikan karakter*. Kencana.