Islamic Mindfulness to Improve Self-Regulation and Academic Success in Generation Z

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Abstract

The rapid advancement of digital technology has had a significant impact on Generation Z, especially in terms of self-regulation and academic performance. This generation faces challenges in managing stress, attention and emotions, which are often compounded by the overuse of social media and digital devices. The purpose of this study is to explore the potential of Islamic mindfulness, which incorporates practices such as dhikr and tafakur, in improving self-regulation and academic performance among Indonesian high school students. This quasi-experimental study utilised a pretest-posttest control group design, involving 300 students from six high schools in Bogor. The experimental group received an 8-week intervention focusing on Islamic mindfulness techniques, while the control group continued their regular academic activities. Self-regulation and academic performance were measured using standardised questionnaires and academic tests before and after the intervention. The results showed that students in the experimental group showed significant improvements in terms of self-regulation and academic performance, in contrast to the control group. This research contributes to the field of Islamic education by providing evidence of the effectiveness of Islamic mindfulness in promoting better emotion regulation, focus, and academic outcomes in the digital age. The research offers practical solutions for integrating mindfulness into the educational curriculum, supporting the mental well-being and academic success of Generation Z students in an Islamic educational setting.

Keywords: *Academic Achievement, Education, Generation Z, Islamic Awareness, Self-Regulation*

Abstrak

Kemajuan teknologi digital yang pesat telah berdampak signifikan pada Generasi Z, khususnya dalam kaitannya dengan pengaturan diri dan prestasi akademik. Generasi ini menghadapi tantangan dalam mengelola stres, perhatian, dan emosi, yang sering kali diperburuk oleh penggunaan media sosial dan perangkat digital secara berlebihan. Tujuan dari penelitian ini adalah untuk mengeksplorasi potensi mindfulness Islam, yang menggabungkan praktik-praktik seperti dzikir dan tafakur, dalam meningkatkan pengaturan diri dan prestasi akademik di kalangan siswa sekolah menengah di Indonesia. Penelitian kuasi-eksperimental ini menggunakan desain kelompok kontrol pretest-posttest, yang melibatkan 300 siswa dari enam sekolah menengah di Bogor. Kelompok eksperimen menerima intervensi selama 8 minggu yang berfokus pada teknik mindfulness Islam, sementara kelompok kontrol melanjutkan kegiatan akademik reguler mereka. Pengaturan diri dan prestasi akademik diukur menggunakan kuesioner standar dan tes akademik sebelum dan sesudah intervensi. Hasil penelitian mengungkapkan bahwa siswa dalam kelompok eksperimen menunjukkan peningkatan yang signifikan baik dalam pengaturan diri maupun prestasi akademik, berbeda dengan kelompok kontrol. Studi ini memberikan kontribusi pada bidang pendidikan Islam dengan memberikan bukti efektivitas

mindfulness Islam dalam mendorong regulasi emosi, fokus, dan hasil akademis yang lebih baik di era digital. Studi ini menawarkan solusi praktis untuk mengintegrasikan mindfulness ke dalam kurikulum pendidikan, mendukung kesejahteraan mental dan keberhasilan akademis siswa Generasi Z dalam lingkungan pendidikan Islam.

Kata kunci: Prestasi Akademik, Pendidikan, Generasi Z, Mindfulness Islam, Pengaturan Diri

Introduction

Generation Z is a generation that has grown up in a highly dynamic digital environment, where social media and digital devices are an integral part of their daily lives. The rapid development of technology has had a significant impact on Generation Z's academic life, especially in terms of self-regulation and mental health. While social media can be a useful tool, its excessive use has led to an increase in anxiety, academic stress, and a decrease in students' ability to control their attention and manage their time effectively (Sharma & Singh, 2024).

Numerous studies have shown that excessive social media use can negatively impact students' self-regulation skills and academic achievement. A study in Bangladesh found that excessive smartphone use worsened self-regulation ability despite having no direct relationship with academic achievement (Shetu et al., 2024). In addition, a study of student-athletes during the COVID-19 pandemic revealed that social media addiction contributed to decreased academic performance, with 57.6% of the variance in academic performance influenced by addiction (Ahmad et al., 2021). Multitasking with social media was also found to reduce students' attentional control, thereby lowering learning quality and academic performance (Kokoç, 2021).

On the other hand, various approaches have been developed to address the negative impact of these digital distractions, including mindfulness training. Studies show that mindfulness can enhance self-regulation, reduce academic stress, and improve students' academic performance (Darabi, 2021). Moreover, in the context of Islamic education, spiritually-based approaches such as dhikr and tafakur have been shown to be effective in improving self-awareness and managing emotions (Fourianalistyawati, 2018; Saraei et al., 2023). However, research specifically developing Islamic Mindfulness-based methods to help Muslim students cope with academic stress and improve self-regulation is limited.

Although mindfulness approaches have been widely researched in academic contexts, the implementation of mindfulness based on Islamic values is still minimal in education. Most of the existing methods are based on Western concepts, whereas Islamic values such as dhikr and tafakur have great potential in increasing self-awareness, reducing stress, and improving students' academic performance (Shukor et al., 2025). Therefore, there is a need for an Islamic Mindfulness-based approach that can effectively assist Muslim students in managing academic stress and improving their self-regulation.

This research offers a novelty by integrating Islamic mindfulness into Islamic education with a focus on Generation Z, who face huge challenges in terms of stress and attention management in a digitalised world. This approach has not been widely applied in the context of Islamic education, especially in Indonesia. This research also provides a more practical approach by implementing Islamic-based mindfulness techniques in the curriculum that can be

directly practised by teachers and students in Islamic schools. In addition, the study also assessed the effects of this intervention on students' self-regulation and academic achievement, which provides new insights on how to improve learning quality and students' mental well-being simultaneously.

This research is important because Generation Z is the generation that will be the future leaders and must be able to overcome the challenges of the digital world wisely. Without the ability to self-regulate and focus, they may find it difficult to achieve their academic and social goals, due to the increase in digital addiction among Generation Z which has an impact on low self-regulation and academic performance (Mansor et al., 2020). In addition, Islamic values-based approaches in education are increasingly needed to face the increasingly complex challenges of the digital era (Fayda-Kinik & Kirisci-Sarikaya, 2024). The opportunity to integrate Islamic Mindfulness in the Islamic education system can be an innovative solution to improve students' mental and academic well-being (Panduwiyasa & Wibowo, 2024). Thus, this research is expected to make a real contribution to the world of Islamic education in improving the self-regulation and academic achievement of Generation Z through an Islamic Mindfulness approach based on dhikr and tafakur.

Research Methods

This study used a quasi-experimental approach with a pretest-posttest control group design. The main objective of this study is to measure the effect of Islamic mindfulness on self-regulation and academic performance of Generation Z students in secondary schools. This study aims to evaluate whether the Islamic mindfulness techniques applied can improve students' ability to manage emotions and focus, as well as improve their academic performance in the context of Islamic education.

The research design utilised a pretest-posttest control group design, which involved two groups: an experimental group and a control group. The experimental group consisted of students who received the Islamic mindfulness intervention, which involved techniques such as *dhikr*, *tafakur*, and breathing exercises to improve self-awareness, emotional control, and focus. Meanwhile, the control group consists of students who do not receive the Islamic mindfulness intervention, but still follow regular academic learning. Each group will be given a pretest before the intervention to measure the students' level of self-regulation and academic performance. After the intervention is completed, both groups will be given a posttest to measure the changes that occur in both variables.

The variables in this study consisted of independent variables and dependent variables. The independent variable in this study is the Islamic mindfulness intervention, which includes training in techniques such as *dhikr*, *tafakur*, and breathing exercises. Meanwhile, the dependent variable consists of two aspects, namely self-regulation and academic achievement. Self-regulation is measured using the Self-Regulation Questionnaire (SRQ) which measures students' ability to regulate themselves, both in academic and emotional contexts. Meanwhile, academic performance was measured through exam results and assignment assessments on relevant subjects, which were conducted before and after the intervention.

The population in this study were high school students aged between 15 to 18 years old and in grades 10 to 12 in Bogor Regency. The sample used in this study totalled 300 students,

who were randomly selected from 6 high schools in Bogor Regency. The sample was divided into two groups: an experimental group of 150 students, who would receive the Islamic mindfulness intervention, and a control group of 150 students, who did not receive the intervention, but continued to follow the regular learning programme at school.

The instruments used to collect data in this study include several measuring instruments to assess students' self-regulation and academic performance. The Self-Regulation Questionnaire (SRQ) is the main measurement tool used to assess students' level of self-regulation, both in academic aspects and emotional management. This test is designed to measure students' ability to regulate their attention, emotions, and behaviour in the context of learning. Furthermore, the academic achievement test was used to measure students' academic achievement before and after the intervention. This test contains academic questions that are in accordance with the curriculum applied in high school to assess the improvement of student learning outcomes. In addition, classroom observations were conducted by the researcher to observe students' engagement during the Islamic mindfulness intervention sessions and assess their behavioural changes. Finally, interviews with teachers were conducted to obtain feedback regarding the changes observed in students participating in the mindfulness intervention.

This research will be conducted through three main stages. The preparatory stage begins with the selection of 6 participating senior high schools in Bogor Regency. At this stage, the selection and training of instructors who are competent in teaching Islamic mindfulness techniques to students will also be conducted. In addition, pretest data will be collected to measure students' self-regulation ability and academic achievement using the SRQ and academic tests.

In the intervention (experimental) stage, the experimental group will receive Islamic mindfulness training for 6 weeks. The training will be conducted in twice-weekly sessions, each lasting 60 minutes, which include techniques such as dhikr, tafakur, and breathing exercises to improve students' self-awareness, emotional control, and focus. Each session will begin with a prayer, followed by mindfulness techniques aimed at improving self-regulation and stress management. Meanwhile, the control group will not receive this training and will continue their regular learning without any additional mindfulness intervention.

After 8 weeks of intervention, the evaluation stage was conducted. At this stage, both groups (experimental and control) will undergo a posttest to measure changes in their self-regulation and academic performance. Data measurement will be conducted using the SRQ and an academic test similar to the pretest. In addition, classroom observations and teacher interviews will be conducted to assess the changes in students' behaviour during and after the intervention, to get a more complete picture of the effect of the Islamic mindfulness intervention on students.

Data Analysis Techniques in this study will use several statistical approaches to test the results obtained. The collected data will be analysed through descriptive statistical analysis to provide an overview of the distribution and characteristics of the data. In addition, comparative analysis will also be conducted to compare differences between groups. Some of the methods used in this data analysis include:

The paired t-test was used to compare the differences in pretest and posttest scores in each group, namely the experimental group and the control group. The purpose of this test is

to determine whether there are significant changes in self-regulation and academic achievement in the group that received the Islamic mindfulness intervention and the control group that did not receive the intervention.

In addition, to test whether there is a significant difference between the changes in self-regulation and academic performance between the experimental group and the control group, an independent t-test was used. This method will compare the mean difference between the two groups to evaluate whether the Islamic mindfulness intervention has a greater impact compared to the usual learning method.

Furthermore, regression analysis will be used to evaluate the relationship between improved self-regulation and academic achievement obtained after the intervention. The regression analysis aims to see to what extent improved self-regulation contributes to improved student academic outcomes, after receiving Islamic mindfulness training.

The independent variable in this study is Islamic mindfulness, which includes a set of techniques based on Islamic values, such as *dhikr* (remembering Allah), *tafakur* (deep thinking), and breathing exercises. These techniques aim to improve self-awareness, emotional control, and focus. The experimental group will receive this intervention, which is conducted for 8 weeks, twice a week, to help students manage themselves, improve self-regulation, and help improve their academic performance.

The dependent variables measured in this study are self-regulation and academic achievement. Self-regulation refers to the ability of students to control their behaviour, emotions, and thoughts in achieving long-term goals, especially in the academic context. Self-regulation is measured using the Self-Regulation Questionnaire (SRQ), which measures the extent to which students can regulate their attention and behaviour during learning activities. Meanwhile, academic performance is measured through test scores and assignment assessments given to students at the beginning and end of the study. Changes in academic performance will be analysed to determine whether there is a significant improvement after the intervention.

Although not explicitly mentioned in the data analysis, some control variables need to be considered to ensure that the changes are truly caused by the Islamic mindfulness intervention and not by other factors. Some of the factors that need to be controlled include the learning environment, such as whether students get the same support at home and at school, as well as excessive use of technology or other external distractions that may affect students' concentration and academic performance.

This study involved an experimental group and a control group. The experimental group consists of students who receive the Islamic mindfulness intervention, while the control group consists of students who do not receive the intervention, but still follow the regular learning programme. The difference in changes in self-regulation and academic achievement between these two groups will be used to evaluate the effectiveness of the Islamic mindfulness intervention in Islamic education.

Results and Discussion

Results

To test the effectiveness of Islamic mindfulness on students' self-regulation and academic achievement, this study utilised several statistical analysis techniques involving paired t-test and independent t-test. The following is an explanation of the testing techniques used and the results of the statistical tests:

A. Paired T Test

The paired t-test was used to compare the means of pretest and posttest in the experimental group and control group. This test aims to see if there is a significant difference in terms of self-regulation and academic achievement before and after the intervention in each group.

The steps of the paired t-test in this study began by comparing the pretest and posttest values in both groups, namely the experimental group and the control group. In the experimental group, paired t-test was used to compare pretest scores (before mindfulness intervention) with posttest scores (after mindfulness intervention) to see if there is a significant difference after the application of mindfulness techniques. Meanwhile, in the control group, the paired t-test was conducted by comparing the pretest and posttest scores to evaluate whether any changes occurred without the mindfulness intervention, aiming to ensure that the observed differences in the experimental group were not caused by other external factors. Using the paired t-test, it can be analysed whether the mindfulness intervention had a significant effect on the change in pretest and posttest scores in the experimental group compared to the control group.

B. Test Results:

Table 1: T-Paired test results

Group	T-statistic	P-value
Experiment Group	-11.26	1.12e-21
Control Group	-3.06	0.0026

This table shows that in the experimental group, a very low T-statistic (-11.26) and a very small P-value (1.12e-21) indicate a very significant change between pretest and posttest scores. Meanwhile, in the control group, although there was a significant change with a T-statistic of -3.06 and a P-value of 0.0026, this change was not as large as the change that occurred in the experimental group. These results indicate that the experimental group experienced a significant increase in self-regulation and academic achievement, while the control group also experienced an increase but not as large as the experimental group.

C. Independent T-test

Independent t-test was used to compare the changes (differences) between the experimental and control groups. This test aims to see if there is a significant difference in changes in self-regulation and academic achievement between the two groups after the intervention.

The steps of the independent t-test in this study began with calculating the difference between pretest and posttest scores in each group, both experimental and control groups. The difference was calculated to see the changes that occurred in each group after intervention or without intervention. Furthermore, the independent t-test was used to compare the mean difference between the two groups. The purpose of this comparison is to assess whether there is a significant difference between the experimental group that received the mindfulness intervention and the control group that did not receive the intervention. With the independent t-test, it can be analysed whether the mindfulness intervention has a significantly different effect compared to the no intervention condition.

Table: II T-Independent test results

Statistics	Value
T-statistic	5.12
P-value	5.62e-07

This table shows that the T-statistic value of 5.12 indicates a significant difference between the experimental and control groups. In addition, the very small P-value (5.62e-07) confirms that the difference is statistically significant. This indicates that the experimental group that received the Islamic mindfulness intervention showed more significant improvement compared to the control group that did not receive the intervention.

D. Research findings

Findings from this study reveal the impact of Islamic mindfulness practices on self-regulation and academic achievement among Generation Z high school students. Through systematic intervention and comparative analyses between the experimental and control groups, this study aims to provide empirical evidence on the effectiveness of integrating Islamic values such as *dhikr* and *tafakur* into mindfulness training. The following main results were obtained from the data analysis:

1. The experimental group that received the Islamic mindfulness intervention showed highly significant improvements in terms of self-regulation and academic achievement, with p values significantly smaller than 0.05 ($p < 0.05$).
2. The control group that did not receive the mindfulness intervention also showed improvement, but the difference was not as great as the experimental group.
3. Comparisons between groups showed that Islamic mindfulness had a greater impact in improving self-regulation and academic performance compared to the usual learning approach.

The results of this study provide evidence that Islamic mindfulness can improve the self-regulation and academic performance of Generation Z students in secondary schools, and this approach is highly effective in addressing the challenges they face in a world full of digital disruption.

Discussion

This study shows results consistent with various relevant theories and empirical findings in the past five years that support the application of mindfulness in educational contexts. Self-

regulation refers to an individual's ability to control their behaviour, emotions and thoughts to achieve long-term goals. This ability is particularly important in educational contexts, as students who can regulate their emotions and attention tend to be better able to focus on academic tasks, manage time, and reduce stress (Jiang et al., 2017). In addition, research by Zeidan et al. (2018) showed that mindfulness practice can improve self-control and self-regulation. This is in line with the findings in the study, where the group that participated in the Islamic-based mindfulness intervention experienced significant improvements in their self-regulation.

In the context of Islamic education, Islamic mindfulness often involves practices such as dhikr and tafakur, which not only provide peace of mind, but also lead to a better understanding of the self and relationship with God. Research by Ahmed & D'Netto (2020) states that spirituality-based mindfulness, especially in the Islamic tradition, can improve mental well-being and help students regulate their emotions, which in turn can improve academic performance. The results of this study confirm that the application of Islamic mindfulness in Islamic education has a significant positive impact on self-regulation and academic achievement, which is in line with these theories and findings. Generation Z is faced with great challenges in terms of self-regulation due to their high exposure to digital distractions, especially social media and digital devices. Research by (Junco, 2021) shows that distractions from social media can reduce students' ability to concentrate, increase stress, and lower academic achievement.

In this context, Islamic mindfulness offers a solution by providing tools to manage stress and distraction. This was evident in this study, where students who took part in the mindfulness intervention showed significant improvements in self-regulation and improved academic outcomes. Research by Sauer et al., (2019) found that mindfulness can improve academic performance through improved concentration, stress management, and emotion regulation. These findings were also reflected in the study, where the experimental group showed significant improvements in academic performance.

This improvement can be explained by the increased self-regulation experienced by the group as a result of the mindfulness intervention implemented. The holistic approach in Islamic education integrates character development, spirituality and mental well-being, all of which contribute to the formation of a balanced individual. Islamic mindfulness is part of this approach and has been shown to improve students' self-regulation and academic achievement. Research by Rasha et al., (2020) also shows that an educational approach that integrates Islamic-based mindfulness techniques can help students to achieve a balance between their academic achievement and mental well-being.

The results of this study provide strong evidence that an Islamic mindfulness intervention can improve self-regulation and academic achievement of Generation Z students in secondary schools. The findings are in line with various theories and recent studies that show that mindfulness, especially those based on Islamic values, can have a positive impact on managing stress, improving focus, and achieving academic goals. This research also highlights the importance of a holistic approach in Islamic education to address the challenges faced by Generation Z in the digital age full of distractions.

Conclusion

This study aims to examine the effectiveness of Islamic mindfulness in improving self-regulation and academic achievement of Generation Z students in senior high school, with the focus of the intervention conducted in Bogor Regency. Based on the results obtained through t-paired and t-independent statistical tests, it can be concluded that Islamic mindfulness intervention has a significant impact in improving students' self-regulation and academic achievement. The experimental group who participated in the Islamic mindfulness intervention showed significantly greater improvement compared to the control group who did not receive the intervention.

The application of Islamic mindfulness techniques such as *dhikr*, *tafakur*, and breathing exercises has a positive impact in helping students manage stress, improve concentration, and increase their ability to focus on learning. This answers the research objective which aims to find out whether Islamic mindfulness can improve self-regulation and academic performance of Generation Z students.

This research makes an important contribution in developing a more holistic approach to Islamic education, which not only pays attention to academic aspects, but also to students' mental and emotional well-being. The implementation of Islamic mindfulness in the Islamic education curriculum can be an effective solution to the challenges of self-regulation amidst technological advancement and digital disruption faced by Generation Z students.

However, this study has some limitations, such as only involving 6 schools in one area (Bogor Regency), which may limit the generalisation of the results to a wider area. In addition, although this study shows a positive influence of Islamic mindfulness, it is possible that other external factors, such as family support and students' social environment, also influence the results obtained. Therefore, further research with larger samples and wider geographical variations is needed to confirm these findings and explore the potential of this intervention at the national level.

Going forward, these findings open up opportunities to integrate more Islamic-based mindfulness principles in Islamic education at different levels of education, especially in equipping students with skills to manage stress and improve their learning quality. Wider implementation of this intervention may help improve students' academic and emotional well-being in the future.

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