Pedagogical Pathways on Entrepreneur and Religious Culture to Madrasah Graduate Quality

As'ari[1], Juhji[2], Apud[3], Nur Aida Tahirulla Samson[4]
[1] Universitas Islam Negeri Sultan Maulana Hasanudin Banten, Indonesia
[2] Universitas Islam Negeri Sultan Maulana Hasanudin Banten, Indonesia
[3] Universitas Islam Negeri Sultan Maulana Hasanudin Banten, Indonesia
[4] Western Mindanao State University, Philippines

e-mail Correspondent: asari@uinbanten.ac.id

Artikel Info	Abstract
Keywords: Entrepreneurial Leadership, Religious Culture, Teachers' Pedagogic, and Madrasah Graduate Quality	Teacher pedagogical competence in practice constitutes a key to the quality of madrasah graduates. Practicing needs to be integrated into the religious culture and the supported madrasah environment, as well as entrepreneurial leadership. The research objective is to describe quality teaching practices integrated with entrepreneurial leadership and religious cultures that lead to higher graduate quality. This research employed a mixed-methods approach. This study involved a 349-teacher proportional stratified random sample. Participatory observation, in-depth interviews, and documentation are also employed to adopt a qualitative approach in describing each variable. Quantitative data were analyzed using path analysis to determine the contribution of each coefficient to the causal relationships among variables. Pedagogical competence exhibits the strongest and most significant influence on graduate quality, as indicated by its *t-value*. This research indicates that teacher pedagogical competences are integrated into the religious culture program as the basis of madrasah principles and polices. Madrasahs need to focus on teacher pedagogical skills, Islamic pedagogy, and integration of religious values into subject teaching. Principals must be visionary on curriculum integration, such as designing a holistic curriculum that blends general education with Islamic teachings, using local wisdom and religious culture as contextual learning tools, and promoting interdisciplinary approaches where Islamic values are embedded across subjects. Ultimately, transformative and visionary leadership in madrasahs is necessary to inspire religious commitment and academic rigor, facilitate innovation, and maintain the quality of madrasah graduates.
Kata Kunci: *Kewirausahaan Kepala Madrasah, Budaya Religius, Pedagogik Tenaga Pendidik, Mutu Lulusan Madrasah*	**Abstrak** *Kompetensi pedagogi tenaga pendidik dalam pembelajaran merupakan kunci sukses terhadap mutu lulusan madrasah. Pembelajaran perlu diintegrasikan dengan budaya keagamaan dan lingkungan yang mendukung serta kemampuan kewirausahaan kepala madrasah. Penelitian ini bertujuan untuk mendeskripsikan kualitas pembelajaran yang terintegrasi dengan kepemimpinan berjiwa kewirausahaan dan budaya keagamaan yang dapat berpengaruh tingginya kualitas lulusan madrasah. Pendekatan penelitian ini adalah metode ganda. Penelitian ini melibatkan 349 guru sebagai sampel acak proporsional. Observasi, interview, dan dokumentasi dilakukan untuk penggalian data kualitatif untuk menggambarkan model implementasi masing-masing variabel. Data kuantitatif dianalisis dengan teknik analisis jalur dalam pengembangan seberapa besar kontribusi yang ditunjukkan oleh nilai koefisien jalur hubungan antar variabel. Kompetensi pedagogi tenaga pendidik menunjukkan pengaruh yang sangat kuat dan signifikan terhadap mutu lulusan, sebagaimana ditunjukkan oleh nilai t. Hasil penelitian ini menunjukkan bahwa pentingnya kompetensi pedagogi tenaga pendidik yang berintegrasi dengan program budaya keagamaan sebagai dasar kebijakan kepala madrasah. Madrasah harus fokus pada keterampilan*

pedagogi tenaga pendidik, pembelajaran keagamaan Islam, dan pengintegrasian nilai-nilai agama dalam mata pelajaran. Penelitian ini menyarankan kepemimpinan madrasah yang visioner dalam integrasi kurikulum holistik yang memadukan pendidikan umum dengan pengajaran keagamaan Islam. Madrasah mengimplementasikan kearifan dan budaya keagamaan lokal sebagai alat pembelajaran kontekstual. Pada akhirnya, kepemimpinan madrasah yang visioner, transformatif sangat diperlukan untuk berkomitmen pada budaya keagamaan dan akademik yang berstandar tinggi dan memfasilitasi inovasi dalam mempertahankan mutu lulusan madrasah.

INTRODUCTION

The need for the quality of madrasah graduates who respond to and align with strengthening the role of madrasahs in achieving SDGs (Hidayah et al., 2025). In achieving SDGs4, educational institutions, including madrasahs, are expected to be able to create inclusivity and strengthen students' character through a curriculum that emphasizes moral and social values. (Haddade et al., 2024; Sari & Urcy, 2022). The success of madrasahs in achieving the SDGs is pursued by integrating religious Knowledge, science, and other global issues, so that graduates develop a sense of empathy and social responsibility and are ready to contribute to community life. (Chabibi et al., 2025). With this perspective, the standardization of graduate quality becomes broader and more holistic, not focused solely on academic achievement.

Today's teaching output at madrasah does not significantly and specifically contribute to the spiritual competencies of graduates. Even in an Islamic school-based religious assessment, madrasah graduates often fail to meet the needs of social and spiritual improvement. Since religiosity is the essence of education in madrasahs, it has lost its focus on producing graduates who meet the social needs of those living in the surrounding community. Madrasah graduates are expected to have good personal and spiritual qualities. (Indawati et al., 2022). These qualities are manifested through the ability of graduates to gain spiritual knowledge and understanding, internalize and interpret religious values, and apply them to everyday life in society, both in worship rituals and social worship. An ecological perspective, also referred to as religious culture, is employed to achieve the quality standards of these graduates. Discussing the quality of madrasah graduates mainly focused on their literary and numerical academic achievements. The quality discussed in this research constitutes madrasah graduates' academic rigor, focusing on spiritual and religiosity achievement as a quality standard that society needs (Hutagaol et al., 2025).

Previous studies on the quality of graduates from madrasas in several regions of Indonesia have revealed problems that require attention. The religious culture that is the principal value of Madrasah is generally limited to religious rules and traditions, and has not addressed the affective side of students. (Huda et al., 2024). A study of Madrasahs in West Sumatra province reveals that the religious culture does not yet appear very attractive and has not yet become a strong habit among students. (Hensold et al., 2020). Regarding skills and character, madrasahs in Banten still face challenges in instilling a strong religious character and skills relevant to contemporary needs. (Fitria et al., 2025). A systematic literature review revealed that 34% of Madrasahs still use a curriculum that does not align with the demands of the digital era, resulting in graduates who are less competitive in mastering technology and critical analysis. (Andrial Fatoni et al., 2025). A previous study demonstrated that pedagogical competence can enhance the development of religious culture and improve the quality of graduates. (Nurulloh et al., 2020).

However, the study is theoretical, so empirical evidence is needed to substantiate the validity of the concept. This research, therefore, aims to empirically prove this through quantitative data *(statistically supported),* with the highest value serving as the independent variable for promoting

madrasah graduate quality. Meanwhile, qualitative data collection not only strengthened the empirical statistical data but also proposed models of implementation of each variable involved at leading madrasahs in Banten Province, Indonesia.

Madrasah leadership must establish connections between Islamic high school management, rules, culture, and quality learning in order to respond to these challenges effectively. The variable that is predicted to connect all of them is pedagogical competence. (Rosdiana et al., 2024). Pedagogy is a process and effort that connects education, teaching, and learning to develop students' personalities, preparing them to live effectively. Pedagogy connects teaching actions with culture, structure, and social control mechanisms in the classroom and educational institutions. (Veretennikova et al., 2020). Pedagogical competence enables educators to provide an engaging and meaningful learning experience for the students, enhancing their teaching quality. (Haron et al., 2021).

Pedagogy is crucial in advancing religious culture in madrasahs because it facilitates the internalization of religious values through continuous practice, ultimately enhancing the quality of graduates who can effectively counter modern challenges while upholding their faith. (Mulyadi, 2018). Operationally, pedagogy can foster religious culture, and the quality of graduates is a result of the interaction between teachers and students through oral, facilitating memorization, and didactic approaches to sacred texts. (Laura et al., 2020). The primary focus of Islamic education is adab, so pedagogy is a process of ta'dib, which involves training, teaching, disciplining, and habituating oneself to do positive and correct things spiritually, morally, and intellectually. (Memon & Alhashmi, 2018).

The purpose of this research is to investigate the urgent role of teachers' pedagogical skills in practice, which is integrated into the religious culture of the madrasah. Researchers proposed a model of Madrasah leadership on entrepreneurial competencies, which refers to soft skills competencies in madrasah management, enabling leaders to be visionary, progressive, motivational, problem-solving, and enthusiastic in enhancing the quality of madrasah graduates beyond religious culture, integrated into any practicing and teaching subject. (Nargis et al., 2024). According to the research objectives, the findings contribute to recommended recommendations and significantly enhance the pedagogical skills of madrasah teachers in practicing Islamic values as embedded teaching subjects, thereby promoting and preserving the quality of madrasah graduates. The result will promote madrasah leadership who are enthusiastic about implementing models of pedagogical development, religious culture implementation, and enhancing the quality of madrasah graduates.

METHOD

This study employed a mixed-methods approach to enhance the accuracy of research results. Creswell explains that each research method has its own biases and weaknesses, and by integrating both research methods, the weaknesses of data from each method can be mitigated by the strengths of data from the other method. (Creswell, 2018). Quantitative methods are prioritized in the early stages of the process. The population in this study consisted of teachers from State Islamic Senior High Schools in Banten Province, spread across eight cities/regencies, with a total of 1,746 teachers. The sampling technique used was proportional stratified random sampling. In this study, the population was divided based on the status of superior madrasas in each region of Banten Province. After dividing the population into strata, samples were taken randomly from each stratum. Based on this method, the study included 349 participants.

Meanwhile, qualitative methods are employed later to support, deepen, and expand the general descriptions derived from the quantitative findings. (Creswell & Clark, 2011). In qualitative research design, researchers conduct triangulation and data exploration as a basis for a more comprehensive discussion. The implementation of interviews, observations, and document studies is carried out based on quantitative analysis in the initial stage. The qualitative phase is built upon the first (quantitative) phase, and these two phases are connected in an intermediary manner in this study. Qualitative data is used to refine quantitative statistical data by exploring deeper perspectives from the research sample. The questionnaire is in the form of a five-point Likert scale. The explanations for each questionnaire are presented in Table 1 below.

Table 1. Research Instrument

Questionnaire	Indicators	n-item	Validity	Reliability
Principal entrepreneurial competency	1. Ideas and opportunities 2. Resources 3. Into action	30	0.677	0.941
Teachers' pedagogical competency	1. Mastering the characteristics of students 2. Curriculum development 3. Designing learning activities 4. Developing student potential 5. Communication 4. Assessment and evaluation	30	0.637	0.919
Religious culture	1. Artifacts 2. Values 1. Basic Assumptions	30	0.682	0.947
Graduate quality	2. Academic Quality 3. Personal and Social Quality 4. Religious Quality	30	0.656	0.901

Sources: (Bruce R. Barringer dan R. Duane Ireland, 2019), (Demirbilek & Çetin, 2021), (Morris et al., 2018), (Anishchenko et al., 2024)

Path analysis was conducted in this study to examine the influence of Principal's Entrepreneurial Competence (X^1), Religious Culture (X^2), and Teacher Pedagogical Competence (X^3) on improving Graduate Quality (Y). This analysis can measure the direct and indirect effects of one variable on another. Similar to multiple regression, path analysis is conducted on interval data from the total score of the variable, which is the sum of the scores of the dimensions or items of the research instrument. Both path analysis and multiple regression, therefore, are conducted at the latent variable level. Using LISREL 8.8. Analysis with LISREL involves two main stages: building a measurement model to ensure the validity and reliability of the latent variables, and building a structural model to test hypotheses regarding the causal relationship between latent variables. The study conducted an analysis based on a path diagram processed by LISREL to visualize the relationships between variables and facilitate the interpretation of the analysis results.

RESULT AND DISCUSSION

Result

Principles of Entrepreneurship Competence and Madrasa Religious Culture

The research results began with identifying the portrait of the principal's entrepreneurial competency level of the madrasa. The researcher surveyed the principals' entrepreneurial competency in the context of educational management, which was obtained through a questionnaire filled out by madrasa teachers. In general, the entrepreneurial competency of madrasa principals is measured based on three dimensions: ideas and opportunities, resources, and taking action. An overview of entrepreneurial competencies based on teacher assessment in the sample group.

The research sample generally assesses that the entrepreneurial principles of madrasas are very competent in entrepreneurship, particularly in the context of managing educational services. The high assessment indicates that the sample believes the entrepreneurial competency of madrasa principals has been effective in implementing the dimensions of entrepreneurship, enabling them to identify new opportunities in the madrasah environment well, such as developing innovative extracurricular programs or establishing collaborations with external parties. Quantitative data at each range show the number of the sample (n); high competence: > 111 (f: 310 n) shows 88,83%, middle competence: 70-110 (f:39 n) shows 11,17%, and low competence: < 69 (f: 0 n) indicates 0%.

The religious culture of madrasas involved integrating spiritual and intellectual aspects in the practice of their teachers. The results of this survey indicate that teachers perceive the madrasah as having successfully created a learning environment strongly infused with religious values. It showed the value of teachers assessing that the Madrasah has an excellent religious culture. The results of this survey indicate that teachers perceive the madrasah as having successfully created a learning environment deeply infused with religious values. The researcher surveyed teachers' assessments of the religious culture that has developed in the madrasah, using a questionnaire on religious culture. The grade of the distribution shows the level of madrasah religious culture, where> 111 (f:336 n) indicates 96,28% shows high religious, 70-110 in the range (f:10) indicates 2,87% shows middle level, and < 69 (f:0 n) indicates 0% of low level of religious culture.

The evaluation of the established religious culture in the madrasah measured three cultural elements. Artifacts, which are physical elements that reflect religious values, such as mosques, religious phrases, dress codes, and seating arrangements. Values, which are shared principles and beliefs, such as the 5S habit *(Smile, Greeting, Salutation, Courtesy, Respect),* the use of Quranic verses in madrasah activities, and respect for prayer times. Moreover, basic assumptions, which are deep-seated beliefs that shape behavior, such as the importance of maintaining relationships, smiling as an act of worship, and the virtue of congregational prayer.

Madrasah Graduate Quality

Meanwhile, the quality of madrasa graduates reflects the quality of any Islamic education institution and the intended outcomes of its practices. This is evident in the quality of madrasa graduates. Meanwhile, the average score from the teachers' assessment regarding the quality of graduates is 137.08. Based on this score, it indicated that the teachers observe that the graduates of the madrasa have a good understanding of the teachings of Islam. They can apply religious

values in their daily lives, both in social interactions and in worship. In the social aspect, graduates are also assessed as having social skills that enable them to interact effectively with others. In addition to religious and social aspects, teachers also observe an improvement in academic diploma achievements. This indicates that graduates not only possess strong religious knowledge but also have sufficient academic abilities to continue their studies at a higher level.

Then, before conducting the path analysis, a regression analysis was performed to measure the simultaneous and partial influence of several independent variables on the quality of madrasah graduates. The test results are presented in Table 3 below.

Table 2. Regression Analysis

Model	R	R Square	Adjusted R	Std. Error	Change Statistics				
					R	F C	df1	df2	Sig. F
1	.919a	.844	.842	3.091	.844	621.39	3	345	.000

a. Predictors: (Constant), X^3, X^1, X^2

The regression model built has a reasonably good ability to explain the variation in the quality of graduates. This can be seen from the R-Square value of 0.844, which means that 84.4% of the variance in the quality of graduates can be explained by the independent variables, namely the entrepreneurial competence of the madrasah principal, religious culture, and pedagogical competence. In other words, the three independent variables together significantly contribute to improving the quality of graduates. Table 4 below shows the partial influence of each variable on the quality of graduates.

Table 3. Multiple Linear Regression Test

Model		Unstandardized Coefficients		Standardized	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.069	2.461		12.625	.000
	X1	-.128	.048	-.162	-2.649	.008
	X2	.112	.068	.134	1.642	.102
	X3	.803	.051	.933	15.856	.000

a. Dependent Variable: Y

Table 4 indicates that the higher the value of pedagogical competence, the higher the value of the dependent variable. Conversely, the entrepreneurial competence of the madrasah principal also has a statistically significant *t* value but with a negative direction of influence, indicating an inverse relationship between the two variables. Meanwhile, the variable religious culture has an insignificant t-value, indicating that there is no firm evidence of its influence on the dependent variable. Thus, it can be concluded that pedagogical competence is a key variable of the three independent variables in improving the quality of graduates. A path analysis was conducted on the three latent variables to verify this conclusion. The results of the analysis are presented in Figure 1 below.

Figure 1. Path Analysis

Chi-Square=0.00, df=0, P-value=1.00000, RMSEA=0.000
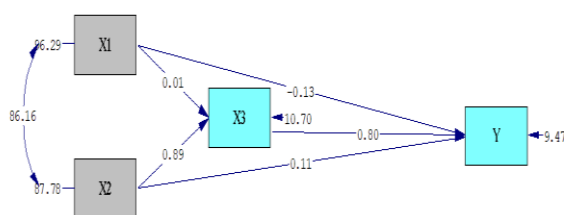
The model of the pathway illustrates the relationship between variables X^1, X^2, X^3, and Y. It appears that the entrepreneurial competence of madrasah principals and religious culture have a direct effect on pedagogical competence, with path coefficients of 0.01 (positive) and 0.89 (very positive), respectively. Furthermore, the entrepreneurial competence of the madrasah principal has a direct adverse effect on graduate quality, with a coefficient of -0.13, and religious culture has a direct adverse effect on the quality of madrasah graduates, with a coefficient of -0.11. Meanwhile, pedagogical competence has a powerful and positive direct effect on Y of 0.80. Although the *Chi-Square, df, P-value*, and RMSEA values indicate a perfect model fit.

Based on the path analysis, it can be concluded that the pedagogical competence of educators is the most influential mediator factor in improving the quality of madrasah graduates. The implementation of pedagogical competence involves designing active and engaging learning experiences. Keywords such as "*learning*," "*approach*," and "*involve*" refer to student involvement in the learning process. The implementation of this pedagogical competence is evident in the selection of various learning methods, including project-based learning, group discussions, and problem-based learning. Teachers also use information and communication technology to create a more interactive and engaging learning environment. Thus, students are involved in developing knowledge; learning becomes more meaningful and relevant to the daily lives of prospective graduates.

DISCUSSION
The Impact of Principals' Entrepreneurial Competence on Graduate Quality.

There is a significant influence between the entrepreneurial competence of the madrasah principal on the quality of madrasah graduates, based on the significance value of the entrepreneurial competence of the madrasah principal (X1) = 0.000, which is less than the probability of 0.05. The value of the correlation coefficient (R) = 0.780 indicates a relatively weak positive relationship between the two variables. In addition, the R-squared value = 0.609 indicates that approximately 60.9% of the variance in variable Y can be explained by variable X1. The data shows that the variable of the entrepreneurial competence of the madrasah principal contributes quite minimally to explaining changes in the quality of graduates. The results of the research indicate that the principle of entrepreneurial competence has low significance in enhancing the quality of madrasah graduates.

The entrepreneurial competence of the madrasa principals becomes the focal point for all changes and advancements toward which the vision, mission, and objectives are directed. (Leitch & Volery, 2017). Entrepreneurial madrasa's leadership employs (Risanty & Kesuma, 2019); (1) Building and developing innovative aspects for the advancement of the madrasa (Kriswahyudi et al., 2024). (2) Achieving success for effective educational organizations (Niyazova & Niyazov, 2023). (3) Highly motivated in the succession of the main tasks and functions of an educational leader (Aldosari, 2020). (4) Always striving (or persistent) with problem-solving abilities to overcome any challenges. (5) A good entrepreneurial spirit in the management of educational institutions or Islamic schools is a valuable source of learning (Huda et al., 2024).

The ability, or hereafter referred to as the competence, of the principals serves as a benchmark in evaluating the performance of Madrasah principals as top leaders of an educational organization or institution (Norman M. Scarborough, 2020). Renewable programs related to the sustainable capacity building of educators, as well as the implementation of programs to enhance the religious culture, which remains minimal, are shaping students into

individuals ready to serve the community upon graduation from Islamic schools (Mahsusi et al., 2024).

The study's results began by examining the level of entrepreneurial competence among madrasa principals. (Suryapermana & Maulidya, 2025). The dimensions of ideas and opportunities are implemented in the efforts of the madrasah principals to identify potential opportunities that can advance the madrasah. SWOT analysis is an activity that the madrasa principal generally carries out to find ideas and opportunities for innovation (Veretennikova et al., 2020). Madrasah principals analyze opportunities to enhance the quality of education, establish strategic partnerships with various external parties, and leverage the potential of local resources. Madrasah principals succeeded in optimizing it.
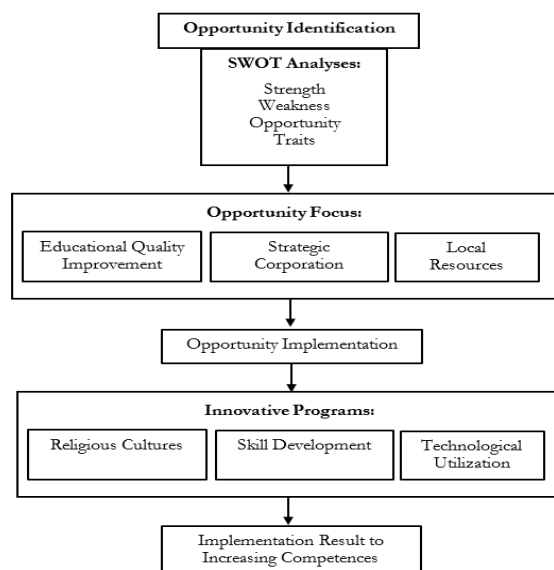
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Figure 2. Visualization of Entrepreneurial Competence

The Influence of Religious Culture on Madrasah Graduate Quality

The quantitative data indicate a significant influence of religious culture on the quality of madrasah graduates, as evidenced by the significance value of 0.000, which is smaller than the 0.05 probability threshold. The R-squared value = 0.727 indicates that approximately 72.7% of the variance in variable Y can be explained by the variable of religious culture. This finding shows that the religious culture variable makes a substantial contribution to explaining changes in the quality of graduates. However, a few of the samples that assess the religious culture in Madrasah still require development. This indicates that although generally, madrasahs have succeeded in creating a conducive environment for the growth and development of religious values, there are still some aspects that need improvement.

One of them is in religious activities, such as group prayers and regular study sessions, which have been carried out; further efforts are needed to ensure that religious values are truly internalized in the daily behavior of students and teachers. Religion encompasses a person's level of belief and attitudes towards the teachings of their faith and ritual practices, both in the context of their vertical relationship with God and horizontal relationships with others, as an effort to seek meaning in life and happiness. (Astuti, 2024).

This framework aims to foster a religious culture in Islamic schools, instilling religious values in self-learners who need to be pursued seriously and sustainably through planned programs. In understanding religious culture, language is closely tied to the setting, milieu,

atmosphere, feel, tone *(or state of being),* and climate (Aliksiichuk et al., 2024). The Islamic schools community, comprising both teachers and students, provides a space for self-development, enabling them to achieve the values and spiritual norms of their religion, develop good self-control, and cultivate intelligence based on behavior and morality in accordance with the religion they adhere to (Olufadi, 2017).

Madrasah principals need to create a conducive learning environment for the growth and development of religious values. By involving all components of the Islamic schools, from teachers and staff to students, it is hoped that a strong synergy can be created in realizing the goals of religious education.(Salamah et al., 2025). Madrasah principals enhance the performance of teachers and foster a positive environment. Religious culture, such as collective recitation of the Koran and serving as a speaker in morning and Friday prayers, also applies to teachers and staff. The target of this program is to develop the quality of resources among all school members in terms of religious competence, so teachers should also serve as role models for students.

The model produced from this research relates to religious culture and its influence on the quality of graduates. Thus, it can be concluded that the implementation of religious culture in improving the quality of graduates by integrating religious values into all aspects of learning and providing various religious programs has enabled the madrasah to produce graduates who not only possess strong academic knowledge but also exhibit noble character, discipline, and responsibility.
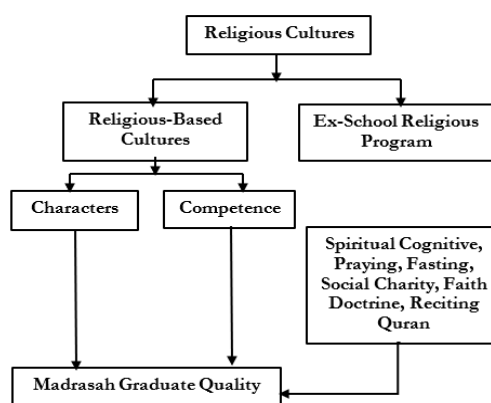

Figure 3. Visualization of Religious Culture

Interferential Teachers' Pedagogical Competencies Toward Madrasah Graduate Quality

The indirect impact of entrepreneurial competence of the madrasa principals on madrasah graduate quality is the multiplication of the *beta value* of madrasah principals' competences against teachers' pedagogical competences by the beta value of madrasah principals' competences against graduate quality. It is 0.01*0.80 = 0.008. It shows that the impact of the principal's entrepreneurial competence on graduate quality through pedagogical competence is *very weak*. The equation indicates that the entrepreneurial competence of the school principal can indirectly influence graduate quality by enhancing the pedagogical competence of educators; however, its effect on graduate quality is relatively small.

Meanwhile, the indirect impact of religious culture on madrasah graduate quality is the product of *the beta value* of religious culture against teachers' pedagogical competences, as well as the beta value of teachers' pedagogical competences against madrasah graduate quality. It is 0.89*0.80 = 0.712. The obtained number indicates that the influence of religious culture on

pedagogical competence and graduate quality is very significant *(high)*. Based on this impact calculation, religious culture can significantly affect the quality of graduates indirectly by enhancing educators' pedagogical competence. This means that an increase in religious culture can significantly enhance the quality of graduates by improving teachers' pedagogical competence.

Operationally, pedagogy can foster religious culture, and the quality of graduates is influenced by the interaction between teachers and students through oral communication, which facilitates memorization. (Isupova et al., 2021)., and didactic approaches to sacred texts (Sabki & Hardaker, 2013)(Komarudin, 2021). The main orientation of Islamic education is adab, so pedagogy is a process of *ta'dib*, namely the process of training, teaching, disciplining, and getting used to doing positive and correct things spiritually, morally, and intellectually. (Memon & Alhashmi, 2018). Pedagogical competence is a personal manifestation of teachers that integrates professional culture, personal qualities, experience, and pedagogical activities. (Samusevica & Striguna, 2017).

A teacher with pedagogical competence will be able to determine the steps and teaching methods that are most appropriate and meaningful for students. (Ivanii et al., 2022), and a teacher's ability (competence) is a blend of psychomotor skills, cognition, and affective aspects; values are reflected in habits of action and thought (Mayasari et al., 2024). The competence becomes a fundamental characteristic of individuals based on the reference of effective work outcome indicators, which is also emphasized in specific jobs and situations. (Veretennikova et al., 2020). The framework of thought related to the conclusion and the results of qualitative analysis is presented in the flowchart in Figure 4 below.
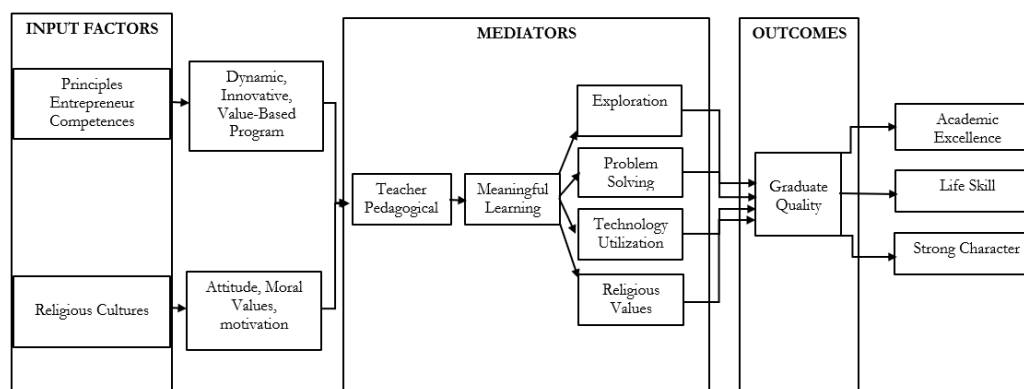

Figure 4. Pedagogical competency model as a pathway to the quality of madrasah graduates

Prospective graduates have good academic quality, life skills, and character. (Isa et al., 2024). Pedagogical competence allows teachers to develop engaging and varied learning experiences, which positively impact the quality of Islamic education. (Taylor and Francis, 2019). Teachers' pedagogical competence directly affects the quality of Islamic schools' graduates by ensuring effective teaching methods and curriculum alignment, ultimately improving educational outcomes and meeting quality standards. Another study stated that pedagogical competence helps teachers implement character education based on religious culture, which is reflected in students' academic achievement. (Sueca & Karmini, 2020).

Strong pedagogical competence enables teachers to create a learning atmosphere conducive to students' spiritual development (Grinshkun et al., 2021). Teachers with pedagogical competence are expected to be able to develop learning methods that can help students achieve a higher level of awareness and meaning in life (Ellis et al., 2013; Rahmatika et al., 2024). In

Indonesian education's current context, which emphasizes deep learning, teachers strive to ensure that students are fully involved (mindful) in tasks and enjoyable learning experiences (Gufron & Suryahadikusumah, 2024). The experience in question integrates information and knowledge obtained by students into their own experiences, producing a deep understanding in students, also known as a reflective experience (Hiğde & Aktamış, 2022).

Pedagogical competence enables teachers to develop engaging and varied learning experiences, which positively impact the quality of Islamic education. (Moslimany et al., 2024). The learning process focuses on stimulating students to explore and solve challenging problems, even integrating religious values into everyday problem-solving. Although pedagogical competence is emphasized in the teacher factor, principals of the Madrasa need to ensure that religious values are taught separately and integrated into all aspects of learning, and conduct regular evaluations of the program's effectiveness. (Mariani et al., 2022). The implication for principals of the Madrasa is to carry out a re-educational strategy that is persuasive, strong, and normative to strengthen the religious culture. (Wahib, 2024).

Madrasah Graduate Quality Improvement Model

Previous studies related to the quality of graduates of Madrasa in several regions in Indonesia show that there are problems that require attention. (Abas, 2019). The religious culture that is the principal value of Madrasa is generally only in the form of religious rules and traditions, and has not touched on the affective side of students. (Taj et al., 2024). Regarding skills and character, the Madrasa in Banten still faces challenges in instilling a strong religious character and skills relevant to the current needs.

A systematic literature review revealed that 34% of Madrasas still use a curriculum that does not align with the digital era's demands, so graduates are less competitive in mastering technology and critical analysis. (Norman M. Scarborough, 2020). Quality encompasses the meaning of suitability with needs. (Antyukhova, 2023). It can be concluded that quality is the conformity and integration of the characteristics of goods or services (as a product) in demonstrating the ability to meet user needs. (Nasution et al., 2023). The output of the Madrasa graduates who are of quality according to the perspective of their users and in the eyes of the community, as a benchmark for 'quality in perception, the quality of graduates that is beneficial for themselves, their families, and the surrounding community (Molokomme & Mahlakwana, 2025).

The quality of graduates is the main objective of the goals of an educational organization, which is realized in the educational programs of a particular institution, both formal and non-formal (Umah et al., 2023). Graduates of madrasa possess qualities in terms of attitude, knowledge, skills, and achievements. Madrasah graduates are not only proficient in knowledge but also possess moral values and spirituality, as well as discipline and independence, and are ready to compete both academically and non-academically. Principals of the madrasah play an important role in supervising educators in updating learning resources for their students. This becomes a problem when educators' pedagogical competencies are still low.
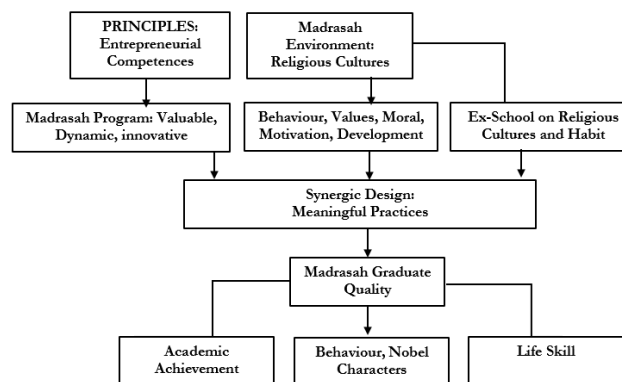
Figure 5. Quality Improvement Model

CONCLUSION

Teacher pedagogical competence is a key factor in determining the quality of madrasa graduates. The dominant factor in graduate quality is teacher pedagogical competencies, rather than visionary madrasa leadership and religious culture. However, the integrated teaching and learning of religious culture helped create graduates' morality and spirituality. Teachers' continuous competence development, as the main program, in line with visionary madrasa leadership, is one of the central policies in their entrepreneurship. Madrasa teachers must be innovative, active, and use relevant teaching practices. The investment in teacher professional development, especially in pedagogical competence, is significant to producing quality madrasa graduates academically, spiritually, and in life skills. To ensure that the entrepreneurial and pedagogical competencies of educators are optimally integrated with the religious culture of madrasahs, contributing to the quality of madrasa graduates, a strategic managerial approach can be adopted. The strategies should align with Islamic educational values.

Principals' entrepreneurial competence, in terms of innovative, problem-solving, progressive, and critical thinking, should incorporate integrated Islamic values in teaching and learning. Such a religious culture is strongly recommended for inclusion in any subject course practice. Further research is needed to explore the intensity of principles in evaluating teachers who practice aligned with upgrading madrasa teacher development, considering the insertion into religious culture. It is strongly recommended to explore more studies on integrated religious culture in developing madrasa graduates' spiritual and moral development as an imperative model.

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