Integrating Entrepreneurship Education into Islamic Madrasah Curriculum: A Qualitative Case Study of Experiential and Project-Based Learning under Indonesia's Freedom to Learn (Merdeka Belajar) Initiative

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ABSTRACT

Purpose – This study aims to develop and evaluate an entrepreneurship-based curriculum aligned with the Freedom to Learn (Merdeka Belajar) initiative at State Madrasah Aliyah in Bukittinggi, Indonesia. Recognizing the necessity of equipping students with entrepreneurial skills, creativity, and self-reliance, this research addresses the critical gap between traditional Islamic education and modern labor market demands

Design/methods/approach – A qualitative case-study approach, complemented by quantitative analysis, was utilized. Data collection involved purposive sampling, participatory observation, semi-structured interviews, document analysis, and closed-ended questionnaires. Participants included school leaders, teachers, students, alumni, and parents. Qualitative data were analyzed thematically, while quantitative data provided descriptive statistics to strengthen findings.

Findings – The integration of experiential learning and project-based entrepreneurship significantly enhanced students' practical business skills, creativity, problem-solving ability, and interpersonal competencies. The curriculum explicitly incorporates principles of student autonomy and flexible learning, central to Indonesia's Freedom to Learn (Merdeka Belajar) initiative. However, substantial challenges were identified, including inadequate infrastructure, limited funding, a shortage of qualified teachers, and societal resistance rooted in traditional perceptions of madrasahs as purely religious institutions. Student questionnaire results indicated positive perceptions of the curriculum's effectiveness (mean score > 4.2 out of 5).

Research implications – Findings provide actionable insights for policymakers, educators, and administrators seeking to implement effective entrepreneurship curricula. Strategic interventions such as enhanced teacher training, structured mentoring, and robust industry collaboration are recommended to address implementation barriers, preparing students for real-world economic challenges and ultimately fostering socio-economic growth and community development.

1. Introduction

Islamic education in Indonesia today is known for its mission to enhance students' self-reliance through well-planned and sustainable vocational and entrepreneurial programmes (Anggadwita, 2021).

This mission affirms the school's commitment to provide a holistic education that not only emphasises academic achievement, but also equips students with the practical skills and entrepreneurial mindset to succeed in the modern world (Arlinwibowo et al., 2022). Through a well-designed and sustainable vocational education curriculum, it provides students with opportunities to explore various vocational fields. By engaging students in hands on learning experiences and real-world projects (Popescu, 2016), the school empowers them to discover their interests and talents while acquiring vocational skills that are valuable in today's job market (Cui, 2021).

Through a structured entrepreneurship program, students are encouraged to develop innovative ideas (Jorgenson et al., 2019), business expertise and problem-solving skills (Ariatin, 2023). The school provides support and guidance to aspiring entrepreneurs, facilitating the birth of student-led enterprises and initiatives that contribute to economic growth and community development (Sarooghi, 2019). Integrating vocational education and entrepreneurship into its curriculum (Brush, 2014), Islamic education in Indonesia prepares students not only for successful careers, but also to actively participate in the socio-economic development of their communities (Wibowo, 2021). Through practical training, mentoring, and experiential learning opportunities, the school instils in its students the confidence, independence, and creativity necessary to navigate the complexities of the modern world and become productive members of society (Fatah, 2023).

The integration of vocational education and entrepreneurship into the curriculum reflects an awareness of the importance of preparing students to face the challenges of a dynamic era of globalization (Muharlisiani et al., 2021). In the context of a constantly changing and globally connected labour market, entrepreneurial skills are becoming increasingly important for individuals to compete and adapt (Lackéus, 2015). Therefore, entrepreneurship education is not only seen as a foundation for personal career success, but also as a tool to contribute to the socio-economic development of society more broadly. Through entrepreneurship education, students are not only equipped with the knowledge of how to start and manage a business, but are also encouraged to develop an innovative, independent and solution-orientated mindset (Spring, 2015). They are taught to see opportunities amidst challenges (Pal & Vanijja, 2020), create added value, and play an active role in the global economy (Iwu, 2021). This gives them the ability to not only seek employment, but also create jobs for themselves and others, and contribute to overall economic growth (Hokayem & Jin, 2019).

Previous research on the entrepreneurship based curriculum has revealed the importance of this approach in enhancing students' creativity, innovation, and entrepreneurial mindset. First, the finding of the papers clearly indicates that the TPB model and cognitive factors are prominent in this research field. Additionally, more than fifty percent of the studies originate from Asia, highlighting the significance of exploring other geographical regions like Africa, America, and Europe, as well as conducting comparative studies across diverse regions. This study provides directions for future research and outlines practical implications for practitioners (Maheshwari et al., 2023).

Second, the finding illustrates how students' psychological traits can enhance their abilities, thereby contributing to economic and social progress in society. From a practical standpoint, our findings offer valuable insights for educators and policy makers. The research suggests the implementation of programmes that aim to foster entrepreneurship among students by nurturing traits such as initiative and optimism. In addition, the study also advocates the provision of educational resources that assist students in reducing perceived risk and increasing motivation to pursue an entrepreneurial path (Cardella et al., 2024).

Third, the findings led to the development of an entrepreneurial skills matrix, which investigates essential competencies for innovative entrepreneurs. Conducting entrepreneurial skills assessment is a very important and key aspect of instructional design. A notable difference emerged in the posttest and pretest scores among female students, indicating that the experimental group specifically improved

their entrepreneurial skills on the posttest assessment compared to the pretest, most likely due to the implementation of the blended learning intervention (Tupe, 2021).

The purpose of this research is to develop an entrepreneurship-based curriculum at State Madrasah Aliyah in Bukittinggi that is in line with the concept of Merdeka Belajar (Freedom to Learn). The steps in this research will focus on several important aspects. Firstly, we will carefully identify the objectives to be achieved through this entrepreneurship curriculum, including the desired competencies to be developed in students. Next, the research will involve in-depth consultations with various stakeholders, such as students, teaching staff, parents, and industry partners, to ensure that the curriculum meets the needs and expectations of all parties. After that, the next step is to select the most appropriate learning strategies and models to implement this entrepreneurship curriculum. This could include the use of project-based learning, business simulation, internships or technology in the learning process. This research will evaluate the effectiveness of the entrepreneurship-based curriculum that has been developed, through data collection on student achievement, analysis of learning outcomes, as well as feedback from all relevant parties. Thus, this research aims to provide practical guidance for State Madrasah Aliyah in Bukittinggi in developing and implementing an entrepreneurship curriculum that can improve the quality of education and prepare students to face future challenges.

2. Methods

This study employs a qualitative approach using a case study method to explore in depth the implementation of an entrepreneurship-based approach in curriculum management at MAN 1 and MAN 2 Kota Bukittinggi, West Sumatra. These madrasahs were selected as the study sites because they have implemented a curriculum that adopts an entrepreneurial approach aligned with the spirit of the Merdeka Belajar (Freedom to Learn) policy and offer various innovative programs aimed at developing 21st-century character and competencies. The research focuses on how the entrepreneurship-based approach influences the learning process and the development of students' self-reliance skills, as well as the challenges encountered in its implementation. Participants in this study were selected using purposive sampling with specific criteria, including the school principals, vice principals for curriculum affairs, teachers directly involved in entrepreneurship programs, eleventh- and twelfth-grade students who had participated in the program for at least one semester, as well as alumni and parents as additional informants. Data were collected through participatory observation of teaching and student entrepreneurship activities, semi-structured interviews to gather in-depth perspectives from various stakeholders, and document analysis of the curriculum, lesson plans, syllabi, entrepreneurship activity reports, and visual records of student projects. All data collection procedures were conducted in accordance with research ethics, including obtaining formal permission from the school authorities, explaining the purpose and benefits of the study to participants, and securing written consent through informed consent forms while maintaining participant confidentiality through a specific coding system.

Although the research adopts a qualitative approach, supporting quantitative data were also collected through closed-ended questionnaires distributed to students to gain insight into their perceptions of the effectiveness of entrepreneurship-based learning. The questionnaire data were then analyzed using SPSS version 26 software to produce descriptive statistics such as frequencies, percentages, and means, in order to strengthen the qualitative findings obtained through interviews and observations. Meanwhile, the qualitative data were manually analyzed using thematic analysis, which included open coding of interview transcripts and field notes, categorizing based on emerging patterns, and identifying key themes. Several prominent themes that emerged included "transformation of the teacher's role as an entrepreneurship facilitator," "strengthening student character and independence," and "challenges in conceptual understanding and resource support." Data interpretation was carried out narratively by linking field findings to entrepreneurship education theories and national curriculum

policies. The integration of qualitative and quantitative data provided a comprehensive picture of the successes and obstacles in implementing the entrepreneurship-based approach at MAN 1 and MAN 2 Kota Bukittinggi, and serves as a valuable foundation for developing innovative curriculum practices in other madrasahs seeking to adopt similar models.

3. Results

3.1. Entrepreneurship Curriculum Model

In the project-based curriculum at State Madrasah Aliyah in Bukittinggi, students are actively involved in real entrepreneurship projects. They not only learn business concepts from textbooks, but also apply them in real-world situations. This gives them valuable experience in developing business ideas, practising relevant skills and building a wide professional network. Participation in entrepreneurship projects provides an opportunity for students to get hands on experience in managing a business. They not only create business plans and marketing strategies, but also launch products or services into the local market. Through this experience, they gain a deeper understanding of the practical aspects of running a business. While engaged in these projects, students develop skills that are highly sought after in the job market, such as creativity, leadership, teamwork, and problem-solving. They also learn to adapt to various challenges and find innovative solutions to problems they face in a real business context.
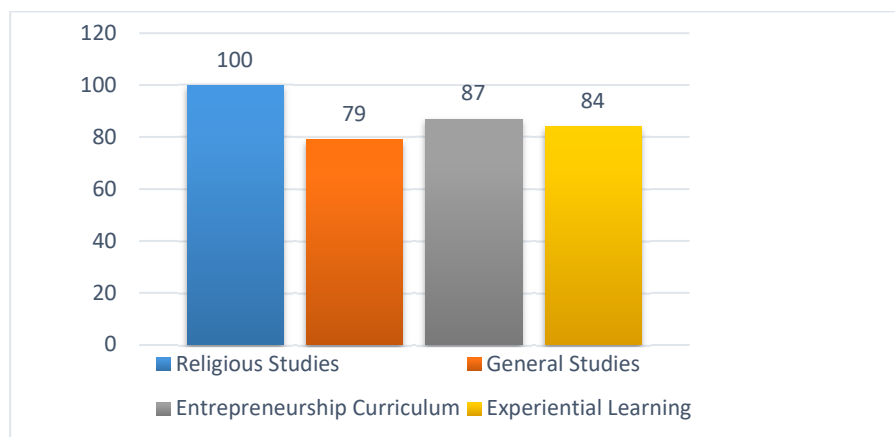

Figure 1. Curriculum Model

The approach taken at State Madrasah Aliyah in Bukittinggi is to combine entrepreneurship material with religious and general subjects. The purpose of this incorporation is to strengthen moral values as well as entrepreneurship which is the main foundation in the development of students as responsible and successful individuals in the business world. The integration of entrepreneurship material with religious subjects allows students to understand how moral values derived from religious teachings can be applied in business practices. They are given the opportunity to explore the relationship between religious principles, such as honesty and justice, and ethical and responsible business practices.

The Experiential Learning model applied at State Madrasah Aliyah in Bukittinggi, students do not just passively receive knowledge in the classroom. Instead, they engage in hands-on learning involving practice, case studies, and mentorship from local entrepreneurs. This approach emphasises the importance of hands-on experience in understanding business concepts and developing entrepreneurial skills. Hands-on practice gives students the opportunity to apply the concepts they are learning in real-world situations. They can engage in activities such as business

simulations, field projects, or even setting up a small business (Maheshwari et al., 2023). This helps them gain valuable practical experience in planning, running and evaluating a business (Wu, 2019). Case studies are used as a means to deepen students' understanding of various aspects of business. By analysing real cases that occur in the business world, students can see how theoretical concepts are applied in a practical context. This helps them develop critical and analytical thinking in dealing with various business challenges (Cardella et al., 2024).

Mentoring from local entrepreneurs provides students with valuable insights and learnings from experienced business practitioners. This mentorship gives them the opportunity to learn from real-life experiences and get first-hand advice and insights into the business world from those who have succeeded. The Experiential Learning approach brings learning to life and is meaningful for students at State Madrasah Aliyah in Bukittinggi. They not only gain theoretical knowledge, but also practical experience and valuable insights from local business practitioners. This helps them better prepare themselves to face challenges and achieve success in the business world in the future.In the Entrepreneurship Curriculum Model, one of the important aspects emphasised is the strengthening of religious and moral values. Students are not only taught to become successful entrepreneurs, but also to run their businesses in an ethical and responsible manner. This is reflected in every aspect of learning, where moral and religious values become an integral part of the curriculum.

Students are given an in-depth understanding of the importance of ethics in the business world (Moberg, 2014). They learn the moral principles that underpin good business practices, such as honesty, integrity and social responsibility (Zhu, 2016). In addition, students are also taught to recognise and address ethical dilemmas that may arise in running their businesses. Throughout their learning, students are encouraged to apply religious values in their business decision-making (Niccum, 2017). They are taught to consider their religious values in all aspects of business, from the decision-making process to interactions with business partners and consumers. Students are also involved in discussions and case studies that explore how responsible business practices can have a positive impact on society and the environment. They are given the opportunity to design and implement business projects that are orientated towards social and environmental good (Klerkx et al., 2019). Through the Entrepreneurship Curriculum Model, students are not only provided with strong business skills, but are also encouraged to become responsible and ethical leaders in the business world. They understand that true business success is not only measured in terms of material gain, but also by the positive impact they bring to society and the world around them (Buli, 2015).

3.2. Benefits of Entrepreneurship Curriculum Implementation

Increasing students' interest and motivation is key to achieving optimal learning outcomes. One effective way to increase students' interest and motivation is to encourage them to be creative, innovative and independent (Hemme, 2017). Firstly, by facilitating curiosity and passion for learning. Creative and innovative students will be more motivated to find out and learn new things (Ndou, 2018). This helps them to actively engage in the learning process and improve their learning outcomes. Secondly, by improving critical thinking and problem solving skills (Choukir, 2019). Creative and innovative students will be trained to think critically and find creative solutions to solve problems. This not only improves their academic skills, but also equips them with the necessary skills to face challenges in the real world (Hero, 2019). Third, by increasing self-confidence and self-efficacy. Self-directed students are more confident in their abilities and believe that they can achieve their goals. This gives them added impetus to continue learning and strive for higher achievement. To achieve this, an active and collaborative learning approach is essential (Asvial et

al., 2021). Provide opportunities for students to learn actively through interactive activities, collaborate with classmates, take the lead and responsibility for their own learning, and reward their efforts and achievements.
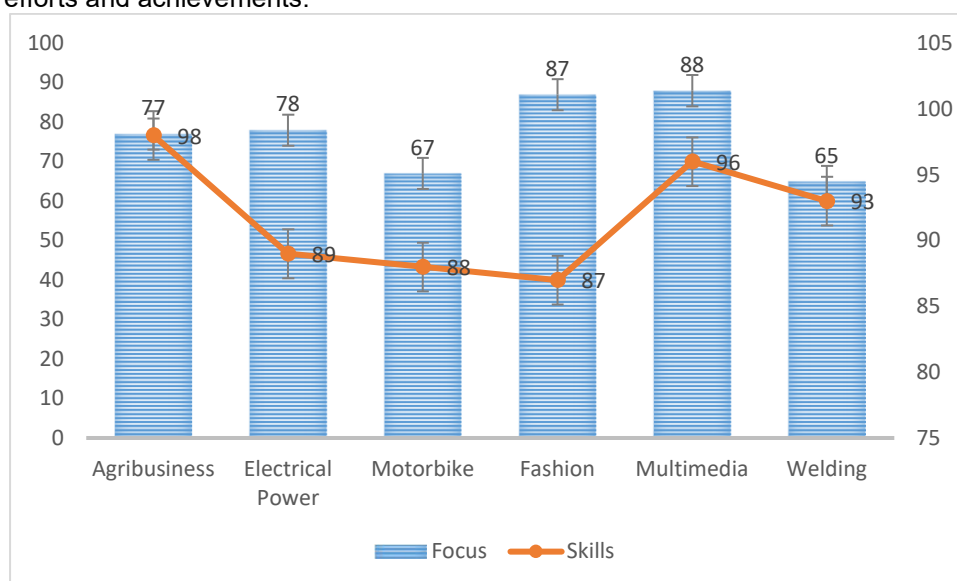

Figure 2. Expertise Programme (Ultra-Concise)

In the context of skills learning at State Madrasah Aliyah in Bukittinggi, there are six skills programmes offered to students, each with a unique focus. One of these is the Agricultural Product Processing Agribusiness Programme, which provides an in-depth understanding of agricultural product processing. Through this programme, students not only learn about processing techniques, but also about other aspects such as storage, preservation, and marketing of agricultural products. They are invited to develop practical skills in processing agricultural products into value-added processed products, so that they can make a significant contribution in increasing the added value of the agricultural sector. Furthermore, the Electrical Power Installation Engineering programme is an option for students who are interested in the electrical field. This programme provides students with the opportunity to learn the basic principles of electronics, maintenance, and repair of electrical power systems. With a focus on safe and efficient installations, students are equipped with the knowledge and skills needed to become experts in this field.

The Motorcycle Engineering Programme offers learning oriented towards motorcycle repair and maintenance. Students will learn about various aspects of motorcycles, including engines, electrical systems, and breakdown diagnosis and repair techniques. Thus, they are prepared to face challenges in the automotive industry and acquire relevant skills in the field. Not to be left behind, the Fashion Management Programme offers students the opportunity to develop talents in designing and making clothes. Students will learn about sewing techniques, design patterns, and the latest fashion trends, so that they can create innovative and high-quality fashion products. With a practical and creative approach, students are guided to become experts in fashion and textiles.

The Multimedia Skills Programme provides students with the opportunity to learn about multimedia content production. By learning graphic design, animation and video editing, students can produce creative works that can be applied in a variety of industries, including media, advertising and entertainment. Finally, the Welding Engineering Skills Programme provides

students with the opportunity to learn about welding techniques for metals and other materials. With a focus on work safety standards and proper welding practices, students can develop the skills necessary to become experts in the construction, manufacturing, and repair industries. Each expertise programme at State Madrasah Aliyah in Bukittinggi is carefully structured to provide students with in-depth understanding and practical skills relevant to specific industry fields. This includes strong theoretical learning supported by practical experience in a contextualised learning environment. Thus, students not only understand theoretical concepts, but also have the ability to apply that knowledge in real-world situations.

Through an industry-integrated approach to learning, students are directed to develop skills that match the demands of the labour market (Warhuus, 2017). They engage in practical projects, simulations and case studies that reflect the challenges and needs faced in the workplace (Secundo, 2015). They not only gain an understanding of how the industry operates, but also gain valuable experience in solving problems and dealing with situations they may face in the future (Cantú-Ortiz, 2020). As a result, students are well prepared to enter the world of work with confidence. They have a combination of knowledge, skills and practical experience that makes them a valuable asset to companies or organisations in related fields. In addition, they are also given the opportunity to continue their education to a higher level according to their interests and talents. This gives students a wider choice in developing their careers according to their personal aspirations and the ever-changing industry developments. As such, each skills programme aims not only to create work-ready graduates, but also to open the door for continuous upgrading and lifelong learning.

3.3. Challenges of Entrepreneurship Curriculum Implementation

Limited resources are a challenge faced in the implementation of entrepreneurship curriculum in madrasah (Aşlamacı & Kaymakcan, 2017). One of the main limitations is the lack of infrastructure, funds, and teaching staff who are competent in entrepreneurship. The lack of infrastructure includes the lack of facilities and amenities needed to support entrepreneurship learning, such as business laboratories or business incubation centres (Cincera, 2018). Meanwhile, limited funding makes it difficult for madrasahs to allocate sufficient resources for curriculum development, staff training and procurement of relevant learning materials. An equally important challenge is the lack of teaching staff with competence and experience in entrepreneurship (Hua, 2020). The entrepreneurship curriculum requires an interdisciplinary and practical approach, so it needs teachers who not only have theoretical knowledge, but also practical experience in the business world (Barton, 2018). Overcoming these limitations requires coordinated efforts between relevant parties, including educational institutions, the government, and the private sector. This could involve allocating additional funds for infrastructure development, providing training for teachers, and collaborating with local entrepreneurs to provide mentoring and internship opportunities for students (Iacobucci, 2012). With these measures, it is hoped that resource limitations can be gradually overcome, so that the implementation of the entrepreneurship curriculum in madrasahs can run more effectively and have a positive impact on students and the community (Pocol, 2022).

Figure 3. Implementation of Entrepreneurship Curriculum in Madrasahs

A significant challenge in implementing an entrepreneurship curriculum in madrasah is changing the mindset or old paradigm about the role of madrasah and students (Johnson, 2006). As a traditional educational institution, madrasah is often perceived as a place to acquire religious knowledge only, while students are seen as learners who only focus on religious knowledge (Faludi, 2019). Successfully implement an entrepreneurship curriculum, a fundamental paradigm shift is needed regarding the role of madrasahs in shaping students as individuals who not only have strong religious knowledge, but also have skills and insights in business and entrepreneurship (Lombardi, 2017). Madrasahs should be seen as institutions that can prepare students to become ethical leaders and entrepreneurs in society (Laverty, 2015).

Students also need to see themselves as individuals who have the potential to contribute to the world of business and entrepreneurship, not just as religious learners (Isopahkala-Bouret, 2014). They need to understand that knowledge and skills in entrepreneurship can be an important asset to achieve success in their lives, as well as to make a positive impact on the society around them. This mindset change requires a comprehensive and sustainable effort from various parties, including the government, educational institutions, communities, and other relevant stakeholders. This could involve awareness campaigns and training for teachers, parents and students on the importance of entrepreneurship in their future (Igwe, 2021). By changing the old paradigm to a more inclusive and progressive one, madrasas can become holistic centres of education that are relevant to the demands of the times. One of the challenges in implementing an entrepreneurship curriculum in madrasahs is the need to build strong co-operation with external parties, including entrepreneurs, financial institutions, and the government. These partnerships are essential to provide the necessary resources, support and opportunities for students and madrasahs to develop entrepreneurial skills and achieve success in the business world (Bodolica, 2021).

Collaboration with local entrepreneurs can give students access to practical experience and first-hand insight into the business world. Entrepreneurs can mentor students, providing them with direction and support in developing their business ideas, as well as providing internships or practical on-the-job learning opportunities (Lang, 2019). Cooperation with financial institutions can assist students in accessing the financial resources needed to set up and grow their business. This could be in the form of small business loan programmes or other financial assistance that can help

students in starting and managing their businesses. Cooperation with the government is also important in providing policy and regulatory support that favours the development of entrepreneurship in madrasah. The government can provide incentives, subsidies or other assistance to madrasahs and students who participate in entrepreneurship programmes (Hunter, 2018). In addition, the government can also facilitate cooperation between madrasahs, entrepreneurs and financial institutions through collaborative programmes or initiatives (Beiler, 2015). By building strong partnerships with external parties, madrasahs can expand their networks, improve students' access to resources and opportunities, and strengthen the relevance of the entrepreneurship curriculum to the needs of the labour market and the business world (Gani, 2019). This will help students develop the skills needed to succeed in a competitive and dynamic business world.

In facing the challenges of implementing an entrepreneurship curriculum, collaborative measures involving various parties are key to achieving success (Rivers, 2015). Solid cooperation between madrasahs, entrepreneurs, financial institutions and the government opens up opportunities to overcome existing barriers and create an enabling environment for students (Muñoz et al., 2021). In this context, madrasahs can utilise the expertise and resources of local entrepreneurs to provide students with practical insights into the business world. Collaboration with financial institutions allows students to access the financial resources needed to realise their business ideas. Meanwhile, government support in the form of policies and incentives can provide additional impetus for madrasahs and students in developing entrepreneurial skills (Bandera, 2018). Through these joint efforts, we can not only overcome barriers such as lack of infrastructure and funding, but also create new opportunities for students to learn and thrive in a competitive business world (Ahmad, 2015). Cross-sectoral co-operation becomes a strong foundation to overcome the challenges of implementing an entrepreneurship curriculum, opening the door to success for students, and bringing about positive changes in society.

3.4. *Exploration of 21st Century Entrepreneurship Curriculum*

In the context of this study, a thorough exploration of the findings and data generated from the implementation of the entrepreneurship curriculum at State Madrasah Aliyah in Bukittinggi is essential. This step allows us to better understand the dynamics occurring in the field. Investigating the findings and data, we can identify patterns or trends that emerged throughout the curriculum implementation. This includes detailed analyses of student learning outcomes, responses from teachers, and the impact on the surrounding community. A deeper understanding of the data allows us to identify the successes and challenges faced in the implementation of the entrepreneurship curriculum. This step also allows us to evaluate the effectiveness of the learning strategies that have been implemented and find opportunities for improvement in the future. Experiencing is a critical step in the evaluation process that allows us to learn from the experience, optimise the implementation of the curriculum, and ensure that the entrepreneurship programme has a positive impact on the students, the madrasah, and the community as a whole. Contextualisation Interpretation, this step involves deciphering the meaning and implications of the collected data to explore the true impact of the entrepreneurship curriculum in the context of the 21st century.

Figure2. Entrepreneuship Curriculum 21st Century

Interpreting the data collected, we can identify emerging trends or patterns as well as understand the implications of the findings in a broader context (Morrin, 2018). This allows us to understand the true impact of the entrepreneurship curriculum in preparing students for the challenges and opportunities that exist in the 21st century business world. Data interpretation also allows us to look beyond the immediate outcomes (Ganefri, 2017). This includes assessing aspects such as the growth of students' entrepreneurial skills, increased interest and motivation in entrepreneurship, and the social and economic impact of students' engagement in entrepreneurial activities.

The implication of the data collected is that we can optimise the implementation of the entrepreneurship curriculum to meet the demands of the times and better prepare students to face the challenges and opportunities in the 21st century era.(Greiff et al., 2015) This helps to ensure that the curriculum is relevant, effective and has a significant impact on students' development as well as the overall progress of society (Syahriani et al., 2023). In the Evaluation of Methods step, the focus is on evaluating the success of the teaching strategies implemented in the entrepreneurship curriculum as well as identifying areas where enhancements or improvements are needed to meet the demands of the times. The teaching strategies that have been implemented will be thoroughly analysed. This includes an assessment of the effectiveness of the various learning methods used, student response to the teaching strategies, and the engagement and quality of learning achieved. Evaluation of methods also involves identifying areas where improvements or enhancements are needed (Fitri & Asrizal, 2023). This could include adjustments to teaching strategies to better meet students' needs in developing entrepreneurial skills, integration of technology in the learning process, or development of materials that are more contextualised and relevant to today's business world. By regularly evaluating the methods, we can ensure that the entrepreneurship curriculum remains relevant, effective and responsive to the times. This helps ensure that students get the best learning experience and are optimally prepared to face the challenges and opportunities in the modern business world (Eysink et al., 2020).

Exploring the 21st century entrepreneurship curriculum, we realise that it is not a journey that is completed in one step. It requires in-depth exploration, rigorous interpretation and constant evaluation (Harvey et al., 2020). Through this process, we can better understand the complexities of the modern business world and adapt our learning approaches to meet the demands of the

times. In an effort to continuously improve and optimise the curriculum, collaborative measures between educators, employers and other stakeholders are crucial. By opening up dialogue, sharing knowledge and integrating practical experience, we can make the learning experience more relevant and meaningful for students (Abd Rahim et al., 2022). Through a commitment to continuous improvement and adaptation, the entrepreneurship curriculum can be an effective tool to prepare young people for the challenges and opportunities of the 21st century. By strengthening the foundation of entrepreneurial values, creativity and innovation, we pave the way for students to succeed in an ever-changing and evolving business world.

4. Discussion

4.1. Entrepreneurship Curriculum Development Strategy

The development of the entrepreneurship curriculum at State Madrasah Aliyah in Bukittinggi requires a comprehensive and sustainable strategy to ensure successful implementation. This global strategy for curriculum development includes several strategic steps designed to strengthen students' entrepreneurial skills and increase the relevance of the curriculum to industry needs. Strengthening collaboration between school and industry. This is done by opening the door for cooperation with local companies, financial institutions and the government to integrate industry best practices into the curriculum. Second, is increasing the availability of supportive educational resources and infrastructure. This includes investment in physical facilities, technology and learning tools relevant to the field of entrepreneurship. Responsive and dynamic curriculum development is key. Curricula must be continuously updated and adapted to the latest developments in the business world and technology to ensure strong linkages with market needs. In addition, it is important to empower teaching staff with continuous training and professional development in entrepreneurship, so that they can provide quality and relevant learning for students.Periodic evaluation and feedback from all stakeholders should be integrated into the curriculum development process to ensure the appropriateness and effectiveness of the steps taken. By implementing these strategies holistically, State Madrasah Aliyah in Bukittinggi can build a strong and relevant entrepreneurship curriculum to prepare students to become future leaders in a competitive business world.

Table 1. Comprehensive Framework

Strategy	Focus	Benefits
Collaboration	Partnerships	Resources, Relevance, Support
Curriculum	Market Trends	Skills, Theory & Practice
Teacher Training	Competence & Innovation	Effective Teaching Methods
Practical Experience	Real-World Application	Develop Skills & Knowledge
Talent Development	Potential & Achievement	Maximize Student Potential
Mentoring & Assistance	Business Guidance	Increase Success Rates
Promotion & Socialization	Awareness & Participation	Generate Support & Interest
Resources	Learning Environment	Enhance Program Quality
Evaluation & Adjustment	Continuous Improvement	Evolving & Effective Programs
Recognition	Student Motivation	Role Models & Increased Engagement

In order to develop entrepreneurship at State Madrasah Aliyah in Bukittinggi, various strategies have been formulated and implemented, including global strategies that consider international perspectives. One of the main strategies is the strengthening of cooperation with various parties, including local entrepreneurs, financial institutions, and government, both on a local and international scale. By collaborating with these stakeholders, schools can gain support in developing entrepreneurship programmes that are relevant to market needs globally. Global cooperation also provides greater access to resources and opportunities at the international level, and helps to increase the relevance of programmes to the needs of the industrial world globally.

Development strategy, State Madrasah Aliyah in Bukittinggi also focuses on developing a curriculum that is relevant to the market and current business trends globally. This includes designing learning programmes that not only offer practical skills, but also integrate theory with practice in line with global market needs. Thus, students not only acquire locally relevant knowledge, but also have the opportunity to apply those concepts in a global business context. Teacher training is also an integral part of the global entrepreneurship curriculum development strategy. Through ongoing training and support for educators, schools can ensure that teachers have the necessary skills and knowledge to deliver inspiring and innovative learning to students with an eye towards a global perspective. Innovative and globally relevant learning methods are key to ensuring students are actively engaged in entrepreneurship learning.

State Madrasah Aliyah in Bukittinggi also provides a focus on facilitating practical experiences for students with an eye on the global dimension. This includes opportunities for internships, industry visits, and collaborative projects with industry stakeholders not only at the local level, but also at the international level. By providing hands-on experience in the field, students are able to apply the theories they learn in a global business context, which in turn helps in the development of practical skills and globally relevant knowledge.

Talent nurturing is also an important focus in the global entrepreneurship development strategy. By identifying and nurturing students' entrepreneurial talents with an eye to global needs and challenges, schools can help students develop their full potential so that they can compete in the global labour market. Mentoring is an important part of the entrepreneurship development strategy at the global level. Through a structured mentoring programme, students can receive guidance and support in starting and running their own business, taking into account a global perspective. This helps to increase students' chances of success in the increasingly globally connected world of entrepreneurship.

Promotion and socialisation of the importance of entrepreneurship at a global level becomes an important strategy in the entrepreneurship development efforts at State Madrasah Aliyah in Bukittinggi. By raising awareness about entrepreneurship among students and society globally, schools can encourage higher student interest and participation in entrepreneurship programmes that are relevant to global challenges and opportunities. The integration of various global strategies in the entrepreneurship curriculum at State Madrasah Aliyah in Bukittinggi has created a learning environment that supports and encourages entrepreneurial development among its students by considering global perspectives and demands. This not only benefits the students individually, but also contributes to community development and competition in the global labour market.

4.2. *Evaluation of Positive Impacts and Challenges*

One of the positive achievements that has occurred due to the implementation of the entrepreneurship curriculum is the increase in students' interest in learning and practical skills at State Madrasah Aliyah in Bukittinggi . By introducing entrepreneurship material in the curriculum,

the school has succeeded in arousing students' interest in learning business concepts and developing their creative ideas. Students become more enthusiastic to learn as they see the direct relevance between what they are learning and their real life and future career. This is reflected in students' active participation in class discussions, collaborative projects and extracurricular activities related to entrepreneurship.

Increased interest in learning, the implementation of the entrepreneurship curriculum has also resulted in significant improvements in the development of students' practical skills (Atef, 2015). Through project-based and experiential learning approaches, students have had the opportunity to hone various skills such as creativity, problem-solving, leadership, and teamwork (Nieuwenhuizen, 2016). They learn how to plan, execute and evaluate their own business ideas, which in turn increases their confidence and independence in facing real-world challenges. The implementation of the entrepreneurship curriculum has also provided opportunities for students to develop their social and interpersonal skills (Naz, 2020). In the face of collaborative projects and business simulations, students learn to communicate effectively, work together in teams, and establish good relationships with their peers (Jager, 2017). This not only prepares them for success in the business world, but also shapes them into individuals who are more adaptive and skilful in interacting with others in various contexts (Rachwał, 2016).

These positive achievements show that the implementation of the entrepreneurship curriculum at State Madrasah Aliyah in Bukittinggi has made a significant impact on students. They not only acquire theoretical knowledge about business, but also develop practical skills, high interest in learning, and interpersonal abilities that are essential for future success. By continuing this approach, the school can continue to motivate and guide students in facing the challenges of an increasingly complex and dynamic entrepreneurial world. The constraints faced during the implementation process of the entrepreneurship curriculum at State Madrasah Aliyah in Bukittinggi are an important part that needs to be carefully analysed. One of the main obstacles that emerged was related to budget limitations. The need for additional resources to implement a comprehensive educational programme often exceeds the available budget allocation, limiting the school's ability to implement all aspects of the desired curriculum. Resistance from teaching staff or students can also be a significant obstacle. At times, teachers or students may face challenges in adjusting to curriculum changes or implementing new learning approaches required in an entrepreneurship curriculum. This resistance may arise due to discomfort with change, lack of understanding of its benefits, or fear of failure.

External environmental factors, such as local market conditions or government policies, can also pose obstacles to the implementation of an entrepreneurship curriculum (Weiming, 2016). Economic uncertainty, intense business competition, or changes in government regulations may affect the context in which students will carry out their business practices, requiring adjustments in the curriculum (Tingey, 2016). Analysing these constraints carefully, schools can identify appropriate strategies to overcome them (Araújo, 2020). This may involve better budget allocation, additional training for teaching staff, or awareness campaigns to overcome resistance. In addition, periodically monitoring and adjusting the implementation plan is also important to overcome obstacles that may arise during the entrepreneurship curriculum implementation process (Matzembacher, 2019). With the right approach, these obstacles can be overcome, allowing schools to achieve their entrepreneurship education goals more effectively. As challenges arise during the implementation process of the entrepreneurship curriculum at State Madrasah Aliyah in Bukittinggi, it is important to formulate effective resolution strategies. One of the main strategies is efficient budget management. By identifying clear priorities and reallocating funds where necessary, schools can ensure that resources are available to support curriculum implementation

without compromising other important aspects of education. In addition, proper training and support for teaching staff is essential. By providing advanced training that focuses on developing entrepreneurial teaching skills and a deep understanding of the new curriculum, staff will be better equipped to deal with challenges that may arise.

Awareness and education campaigns can also help overcome resistance and increase support for the implementation of the new curriculum. By communicating the benefits and objectives of the entrepreneurship curriculum to staff, students and other stakeholders, schools can help build a better understanding of the importance of this change. Collaboration with external parties, such as local businesses and financial institutions, can also be an effective strategy. These collaborations can not only provide additional resources but also open up opportunities for students to engage in internships or collaborative projects relevant to the curriculum.It is important to conduct regular monitoring and evaluation of the curriculum implementation (Ramsgaard, 2018). By collecting data on the effectiveness of the strategies implemented and identifying any problems that arise, schools can formulate appropriate remedial actions. By implementing these strategies in a holistic and planned manner, State Madrasah Aliyah in Bukittinggi can overcome obstacles that may arise in the implementation of the entrepreneurship curriculum and maximise its positive impact in preparing students for an entrepreneurial and competitive future.

5. Conclusion

This study has explored the implementation of an entrepreneurship-based curriculum at MAN 1 and MAN 2 Bukittinggi City in West Sumatra, Indonesia, aligning with the concept of "Freedom to Learn (Merdeka Belajar)". The curriculum was developed with the goal of cultivating independence, creativity, and entrepreneurial skills among students, preparing them to effectively navigate the complexities of a globalised era. Findings from this study underscore that the integration of entrepreneurship education through project-based and experiential learning significantly enhances students' motivation, practical abilities, and interpersonal competencies. Furthermore, incorporating religious and moral values into the entrepreneurship curriculum successfully instils ethical business practices and social responsibility in accordance with Islamic educational principles.

The research provides clear evidence that entrepreneurship education positively impacts student character development, notably increasing their creativity, problem-solving skills, leadership capabilities, and teamwork. Hands-on entrepreneurship projects improve students' comprehension of real-world business practices and enhance the relevance of educational outcomes to current market demands. Furthermore, a range of vocational expertise programmes—including Agricultural Product Processing Agribusiness, Electrical Power Installation Engineering, Motorcycle Engineering, Fashion Management, Multimedia, and Welding Engineering—effectively equip students with practical, industry-relevant skills, ensuring their preparedness to enter the labour market.

Despite these positive outcomes, the study identified several substantial challenges. Key barriers include limited resources, such as inadequate infrastructure, funding constraints, and a shortage of educators with practical entrepreneurship experience. Additionally, traditional societal perceptions of madrasahs solely as religious institutions—rather than as holistic educational entities fostering entrepreneurial competencies—pose significant hurdles. To effectively overcome these challenges, strategic interventions are essential, including efficient budget management, ongoing professional development for educators, extensive awareness campaigns, and proactive collaboration with local entrepreneurs, financial institutions, and governmental bodies.

From a practical standpoint, the research provides valuable insights for policymakers and educational practitioners aiming to design and implement a more effective and market-oriented entrepreneurship curriculum. Recommendations include targeted teacher training programmes,

structured mentoring initiatives, and strengthened partnerships between educational institutions and industry stakeholders. Such strategies can significantly improve curriculum implementation, enabling madrasahs not only to produce graduates who are economically independent and competitive but also to make meaningful contributions to the broader socio-economic development of their communities.

Nevertheless, this research has certain limitations, including its relatively narrow geographical scope—restricted to two madrasahs in Bukittinggi City—and its qualitative-dominated methodological approach, which might limit the generalisability of its findings across Indonesia. Therefore, future research should consider broader geographical contexts, comparative studies among regions and different types of madrasahs, and longitudinal approaches that assess the longer-term impact of entrepreneurship curriculum implementation on students' post-graduation career trajectories.

In conclusion, integrating entrepreneurship education within Islamic education curricula represents a strategic initiative capable of nurturing students to become competent, innovative, ethically responsible, and globally competitive individuals. Through continuous improvement, robust cross-sectoral support, and dynamic adaptation to global challenges, madrasahs have the potential to serve as effective educational institutions, fostering an exceptional generation that significantly contributes to national socio-economic development.

Declarations

Author contribution statement

Pani Yuni Alvadina served as the main and corresponding author, leading the conceptualization, research design, and manuscript writing. Azmi Fitrisia contributed to data collection, analysis, and assisted in the revision and final editing of the manuscript. Ferdi Yufriadi provided critical input during the data interpretation phase and supported the refinement of the theoretical framework and discussion section. Fadilla Syahriani contributed to the literature review and data analysis, while Valensius Ngardi assisted with the study's methodology and provided feedback on the discussion section.

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Data availability statement

The datasets generated during and analyzed during the current study are available from the corresponding author upon reasonable request.

Declaration of Interest's statement

The authors declare that they have no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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