



ALBUKHARY INTERNATIONAL UNIVERSITY

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Ref : AcL\_SDG\_058\_31052024

Mahdalena  
Lecturer  
Tadris Matematika FTIK  
IAIN Lhokseumawe

Dear Mdm. Mahdalena,

**Notification of Paper Acceptance for The International Conference on SDGs Through 3ZEROs Approach and Practice.**

Congratulations, we are pleased to inform you that on the recommendations of our Review Coordinators, your paper has been accepted for presentation at the International Conference on SDGs Through 3ZEROs Approach and Practice, scheduled for 25<sup>th</sup> to 26<sup>th</sup> June 2024, at Albukhary International University (AIU), Malaysia.

**PAPER ID** : **SDG\_058**

Author(s) : Mahdalena, Muhammad Hatta

Organization : IAIN Lhokseumawe

Paper Title : Religious Belief in Teaching Mathematics at School Regarding Education Quality

**Please submit the full paper by 20th June 2024.** Kindly note that at least one author is required to attend and orally present the paper in person at the Conference. For further details on your full paper and presentation slides submission, kindly refer to this link: <https://aiu.edu.my/sdg-x-3zero-conference/>

Looking forward to seeing you at our conference.

Thank you

.....  
Associate Professor Dr. Suraya Hanim Mokhtar  
Deputy Vice Chancellor of Research and Innovation  
Co-Chairman  
International Conference on SDGs Through 3Zeros: Approaches and Best Practices  
Albukhary International University

# INTERNATIONAL CONFERENCE ON **SDG**, THROUGH **3ZEROS** APPROACH AND PRACTICE

25<sup>TH</sup> - 26<sup>TH</sup> JUNE 2024

ALBUKHARY INTERNATIONAL UNIVERSITY

## PROGRAM BOOK

### THEME:

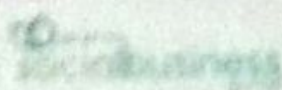
REIMAGINING SDG,  
THROUGH 3ZEROS



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# Foreword

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



**Emeritus Prof. Dato' Dr. Abd Aziz Tajuddin**  
 FASc, FIPM, FAPM  
 Vice Chancellor and President  
 Albukhary International University

Welcome to the international conference on "Reimagining SDGs Through 3 Zeros," hosted by Albukhary International University (AIU) in collaboration with the Faculty of Education, Prince of Songkla University, Tuanku Jaafar Power Station, TNB Power Generation Sdn. Bhd., Yunus Thailand, AIT Thailand, AIU 3ZERO Club, and AIU Social Business Journal.

AIU has a longstanding commitment to fostering social business and sustainable development through education, serving as a cornerstone of our mission. This commitment translates into a dedication to inculcate in our students motivation to provide innovative solutions that address global challenges while promoting positive social and environmental impact.

This conference marks a milestone in our collective pursuit to empower the 3 Zeros concept (Zero Poverty, Zero Unemployment, Zero Net Carbon Emission) within the framework of Sustainable Development Goals (SDGs).

It will inspire, educate, and foster collaboration among participants from academia, industry, government, NGOs, and communities worldwide.

Recognising the power of unity, we will build strategic partnerships across sectors in Social Businesses to achieve the SDGs. The concept of 3 Zeros embodies our shared aspiration for a future where economic prosperity, environmental sustainability, and social equity coexist in harmony. The conference will explore practical approaches, share best practices, and showcase innovative models to drive meaningful change.

By emphasising the power of education, Social Business and the 3 Zeros approach, we aim to educate future leaders. This event will solidify AIU's position as a catalyst in 3 Zeros, Social Business, and sustainability initiatives within the realm of higher education. As we face social and environmental challenges, this conference transcends mere gathering; it is a call to action. Let us rethink traditional paradigms, explore new possibilities, and champion sustainable development.

We extend our sincere gratitude to all participants, speakers, and partners for their invaluable contributions. Together, through education, Social Business and the 3 Zeros approach, let us reimagine a sustainable and equitable future.

We look forward to a stimulating and productive conference!



# Partners

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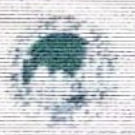
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3 ZERO CLUB



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## Keynote



**Charles Hopkins**  
 UNESCO Chair in Reorienting  
 Education Towards Sustainability York  
 University Faculty of Education

This keynote will emphasize the need for local engagement in achieving sustainable development following both the vision of the 2030 Agenda with the Sustainable Development Goals (SDGs) and the long-term vision of the Futures of Education. Translating the broad aspirations of the SDGs into actionable initiatives at the community level and engaging with stakeholders from all branches of society is as crucial as including educational objectives in each initiative. Universities have an important role to play in connecting these global and local levels and informing action through research evidence and policy advice. In Malaysia, the innovative concept of the 3Zeros - Zero Poverty, Zero Unemployment, and Zero Net Carbon Emissions

can serve as a holistic framework for addressing economic, environmental and socio-economic challenges while fostering educational opportunities. Hopkins will showcase successful community-based strategies and academic initiatives, highlighting the transformative power of localized action through education, public awareness and training - in short, Education for Sustainable Development (ESD, stated in SDG 4.7) - as a key enabler of all 17 SDGs. By empowering communities to take ownership of their development trajectories and educational pathways, a bottom-up approach to sustainability becomes possible that not only catalyzes meaningful change, but leads to lasting societal shifts. This keynote will further the call for action towards a more inclusive, just and sustainable future by directing the changes at the local level.



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# Parallel Session

Tuesday, 25/06/2024

2.00 - 3.30 pm

Venue: Room 5

Moderator: Aina Yasmin Mohd Amin

Paper ID	Author(s)	Paper Title
SDG_016	Salame Aminu Haliru, Tengku Shahrom Bin Tengku Shahdan and Bakare Kazeem Kayode	Elaborating the Findings on Enhancing Student Engagement and Motivation through Gamification in Education: A Review of Research Evidence
SDG_020	Muhammad Hamizan Mohd Morthir, M Sholeh Afipuddin, Fenia Intan Astilawati, Najat Abubakari Kalthom Husain	Enhancing Vocabulary Mastery Through Crossword Puzzles: A Case Study at a primary school
SDG_063	Mohamad Jodi Dwiyanto, Ayazhan Seitkali, Putri Humairoh, & Tuanlatifah Babathi	Digital Marketing Adoption and Business Performance Growth: A Theory of Planned Behavior Study of Entrepreneurs in Pekan Rabu, Alor Setar
SDG_058	Mahdalena, Muhammad Hatta	Religious Belief in Teaching Mathematics at School Regarding Education Quality



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# Religious Belief in Teaching Mathematics at School Regarding Education Quality

Dr. Mahdalena, S.Pd, M.Pd (IAIN Lhokseumawe, Aceh, Indonesia)

Dr. Muhammad Hatta, MA (IAIN Takengon, Aceh, Indonesia)



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# Presentation Outline

1. Introduction
2. Method
3. Result
4. Discussion
5. Conclusion



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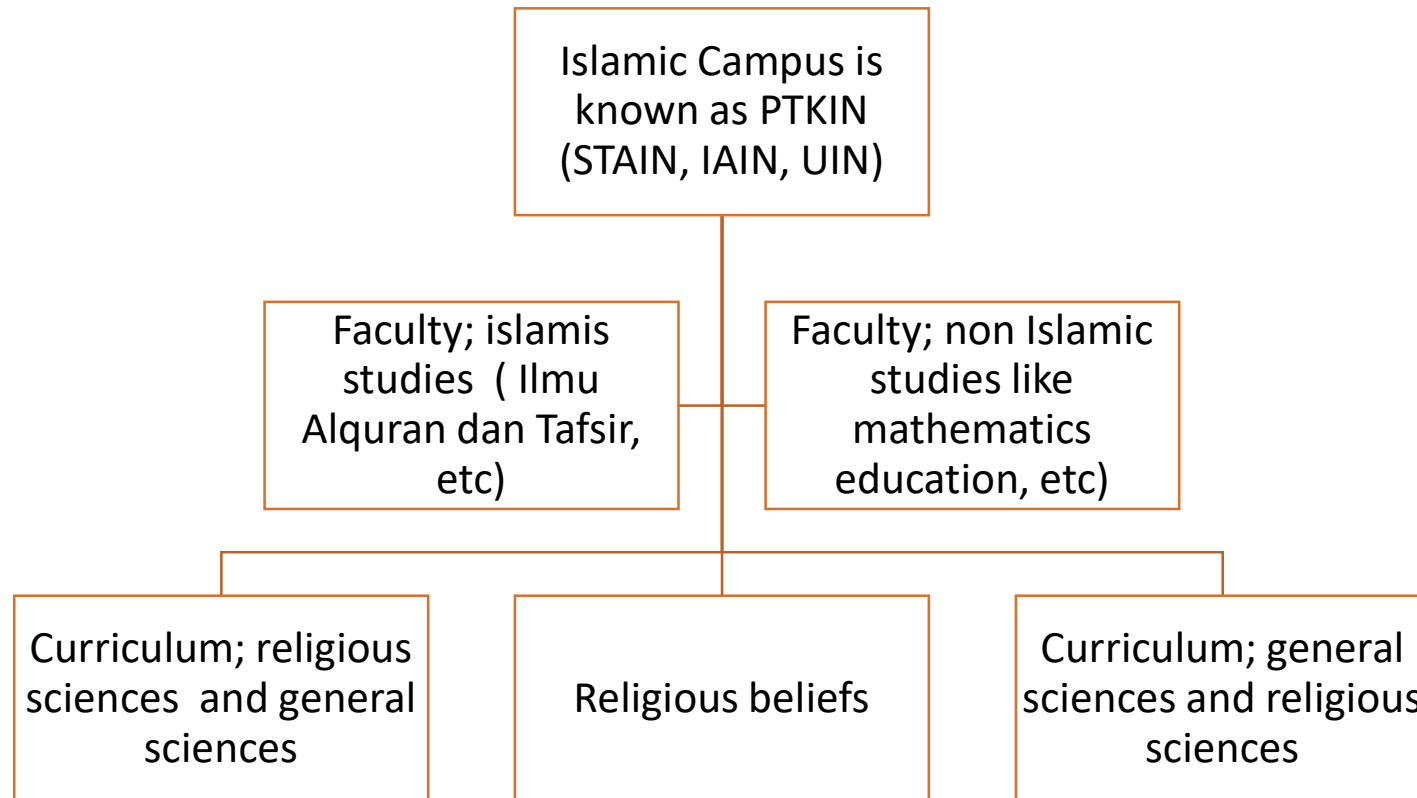


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# Introduction



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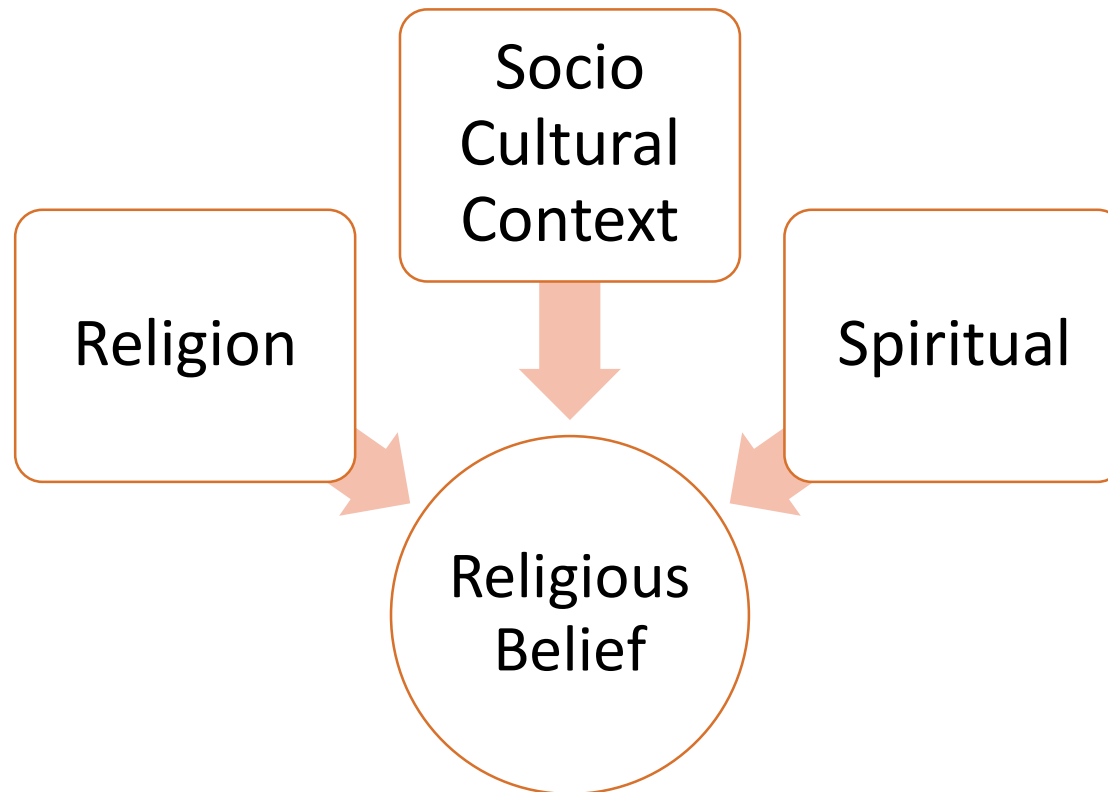


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# Introduction



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# Introduction

Research on the integration of mathematics education and religious education, particularly in education programmes for pre service teacher, has not been widely conducted.

Among the few studies is the work of (Chan & Wong, 2016), who raised the issue of integrating religious or spiritual education and mathematics education at the school level (primary and secondary).

There are two significant studies in the context of education for pre service teacher.

Woolley (2008) discusses religious education for prospective citizenship teachers in the United Kingdom.

Stolberg (2008) emphasised the integration of spiritual education and science education in a primary school teacher education programme in the United Kingdom.





# Introduction

The purpose of this paper, which is a report on an empirical study, is to look into how pre service teacher communicate their own religious ideas to their students.

We don't assume that their communications qualify as religious education or not. whatever we did, it wouldn't be our intention to suggest any strategies for incorporating religious views into the curriculum.

We are completely aware that education in general—as opposed to merely religious education is a complex topic, therefore we don't want to draw hasty judgments. Just displaying the phenomenon from our empirical data is all that is required of us.



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## Method

- Research Design; Case study
- Sampling Procedures: Purposive sampling
- Participant: three pre-service teachers
- Research Site and access: Institut Agama Islam Negeri (IAIN) Lhokseumawe
- Instrument of The Research: Observation, interview
- Data Analysis; based on Heie's sceme



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# Method

## Heie's theory

Heie ([2002](#)) describes three integrative approaches, namely, incarnational, coexistence and coherence approaches. The incarnational approach focuses on caring and concern for students' well-being and spiritual growth. Under the coexistence approach, the mathematical facts and religious statements are put side-by-side without explicit relationship. Heie points out that the third, which is coherence world-view approach, is real integration.



# Results (1)

The following three approaches were identified.

## 1. *Thematic Approach: Andi*

The teaching materials are centered on a particular theme in lessons using a thematic approach. The lesson includes supplementary resources from other subject areas (including but not limited to religion) in addition to the necessary mathematical information so that the relationship between mathematics and religion may be clearly demonstrated.

Andi provides an illustration of SPLDV in the context of Friday alms: "Hamada every Friday gives donations of caluk noodles and sugar cane juice for a dayah." IDR 10,000.00 will buy you one caluk noodle and 4 small bottles of orange juice; IDR 45,000.00 will buy you 7 caluk noodles and 3 small bottles of orange juice. For 5 caluk noodles and 5 small bottles of orange juice, how much money will Hamada bring to the dayah? Students appeared interested when Andi described the answer to the issue since it was put out in the context of religious principles, including donations. Before arriving at the conclusion that Hamada was offering donations on that Friday for Rp. 23,000.00 for 5 caluk noodles and 5 small bottles of orange juice that would be taken to the dayah, Andi methodically set out the procedures for the solution.



## Results (2)

### 2. Add-on approach: *Ina*

Both mathematical goals and religious themes are meant to be made plain in add-on approach lessons. One of these, however, is more important than the other; it is an addition. The connection between the religious and mathematical components is made suddenly; their relationship is not particularly clear.

Ina and her group carry out teaching practice at SDN 1 Blang Mangat. He teaches in class 6A with a total of 27 students.

Ina also drawn a connection between religion and the fact that tahajjud, or night prayers, are held around midnight or during the third of the night, as Allah mentions in Surah Al-Muzammil verse 3. He continued by explaining that there are 24 hours in a day and night, which is why various fractional numbers, such as half a day ( $1/2$ ), a third of the night ( $1/3$ ), and so on, are used in this context.

## Results (3)

### *3. Implicit approach: Ita*

Religious topics were not specifically covered in lessons using the implicit approach. On the surface, it appears to be typical mathematical instruction without any religious overtones, yet the rationale of the lesson design is based on the teacher's religious beliefs.

Ita instructed a class of 30 students in class 2.5 as part of her teaching practice with her group at MTSN 1 Aceh Utara.

He began the lesson by reading a prayer aloud to the students, talking to them about their readiness to learn, and checking on their wellbeing. After completing the material description and group formation, Ita resumed the course by explaining that Muslim scientist Thabit bin Qurra was the creator of Pythagoras. Students appear more engaged and active when working in groups and seem more enthused.



# Discussion (1)

Many research investigations have been conducted in relation to the classification proposed by Heie's, including (Mahdalena & Nuraini, 2021); (Imamuddin et al., 2020); (Barzegari, 2014); (Abdussakir & Rosimanidar, 2017); (Snezana Lawrence, 2015); (Che et al., 2017); (Cipta & Hori, 2019); (Triana et al., 2023); (Muniri, 2016).

This study needs to be repeated, and steps must be taken to put previous research into practice. Another crucial issue is the requirement for government authority policy, particularly for the education department, to require the development of mathematics learning resources that are integrated with Islamic principles, particularly given that Aceh is an area with unique characteristics in the field of education. The government must also remind teachers to have sufficient religious knowledge or religious views in order for them to create learning situations that integrate religion (to prevent knowing dichotomies).

## Discussion (2)

- *Revisiting the three approaches*

The three cases examined in this study, however, can be classified into three categories based on how they refer to religious beliefs in mathematics learning. We shall discuss these strategies once again in the sections that follow in relation to Heie's classification . The explicitness of the relationship between the subject discipline (mathematics) and religious beliefs varies throughout these approaches. Heie's classification, which was initially intended for school mathematics, largely holds true in this context.



## Discussion (3)

The implicit technique, used by Ita exhibits the least overt connection of religion and math instruction among them. There was seldom any explicit religious content in their lessons. Instead of incorporating religious substance into their (mathematics) instruction, they attempted to implicitly live out their faith. This might be viewed as fitting within Heie's "incarnational mode," which holds that the teachers "incarnated" as their performances (or Islamic personalities) in order to show their concern for and affection for the students.

The add-on strategy has poor content integration. In Ina's lessons, both the mathematical content and the religious message have been made clear. The two parts are, however, somewhat divided. This strategy is comparable to Heie's coexistence strategy.

A good content integration strategy is thematic approach. Coherence themes were supposed to be organized in Andi's lessons. Under the themes, explicit connections between mathematical goals and religious messages were made. This strategy is consistent with Heie's coherent worldview strategy, which places a focus on the explicit relationship between mathematics and religion.



# Conclusions

We described mathematics lessons created and delivered by three teachers. The lessons were specifically created so that references to the teachers' religious beliefs were made when teaching mathematics. Thematic, add-on, and implicit teaching approaches were discovered based on these three lessons. These methods were evaluated in comparison to Heie (2002)'s classifications. It was discovered that our methodologies are largely similar, with the exception that Heie's coherence worldview approach is not as comprehensive in our study. At the level of classroom mathematics, we have suggested a potential implementation strategy for a worldview approach with greater coherence..



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## Conclusions

- This study also provided examples of how to implicitly incorporate religious ideas into the teaching of academic subjects when explicit religious allusion is not encouraged. The teacher is crucial. There is always a way if the teachers are committed enough. A small improvement can make a big difference.
- Islamic values and the values of sustainable development are not in conflict. in other hand, The content of the religious education curriculum has the potential to innovate its content to meet the current requirements of the United Nations (UN).



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# Appendix

No	Teachers (pseudonyms)	School level
1	Andi	Dayah Darul Ulum Lhokseumawe
2	Ina	SDN 1 Blang Mangat Aceh Utara
3	Ita	MtsN 1 Aceh Utara



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# Religious Belief and Mathematics at School Reformation in Quality

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ALBUKHARY INTERNATIONAL UNIVERSITY

**THEME:** REIMAGINING SDG<sub>s</sub>  
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