

The Utilization of the Concept of Zakat Materials in Teaching Addition and Subtraction Operations: An Analytical Study in Elementary Schools

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Abstract

This study explores the use of the concept of zakat in teaching addition and subtraction operations to elementary school students. Mathematics, especially these basic operations, is an important foundation for understanding more complex mathematical concepts in later education. However, learning mathematics in primary school often faces challenges such as lack of student interest and difficulty in understanding basic concepts. This study uses qualitative methods with a descriptive approach, focusing on observations, interviews, and documentation at Aisyiyah Ngemplak Sleman Flagship Elementary School. The results showed that integrating the concept of zakat in mathematics learning not only makes it easier for students to understand addition and subtraction operations but also instills religious and social values. This approach makes learning more contextual and engaging for students, increasing their motivation and participation in class. Interactive activities such as group discussions and simulations of zakat collection and distribution have proven effective in developing students' collaborative skills and social awareness. Thus, the integration of the concept of zakat in mathematics learning contributes positively to the development of mathematics education and the formation of student character.

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Introduction

Education is one of the important pillars in nation building, where the development of basic mathematical skills is one of the main focuses at the elementary school level (Ulia et al., 2020). Mathematics, especially addition and subtraction operations, is a foundation that must be mastered by students as a provision in learning more complex mathematical concepts at the next level of education (Tantowie & Fuadi, n.d.-a). However, often mathematics learning in elementary schools faces various challenges, including a lack of student interest and difficulties in understanding these basic concepts (Wahyu, 2022).

In this context, an innovative and contextual learning approach is needed so that students are more interested and easy to understand mathematics material. One approach that can be used is to utilize material concepts that are close to students' daily lives (Wahyuni, 2021). Zakat, as one of the pillars of Islam, has great potential to be used as a context in teaching addition and subtraction operations (YULIANA, 2021). Zakat not only contains religious and moral values, but also involves relevant mathematical concepts that can be applied in daily life (Kurniawati et al., n.d.).

This study aims to explore the use of the concept of zakat material in teaching addition and subtraction operations in elementary schools. Through this research, it is hoped that effective teaching methods and strategies can be found and can contribute positively to the development of mathematics education in Indonesia, especially at the elementary school level. Thus, the integration of the concept of zakat in mathematics learning not only enriches teaching materials, but also forms the character of students who have a good understanding of religion and society.

Methods

This research aims to explore how the concept of zakat can be used in teaching addition and subtraction operations to elementary school students. The research method used is qualitative with a descriptive approach. This approach was chosen because it allows researchers to understand the phenomenon in depth and comprehensively, as well as obtain a detailed picture of the learning process that occurs. The research design used is a case study, where the researcher focuses on one or several classes in a certain elementary school to examine the implementation of mathematics learning with the concept of zakat.

This research was carried out at Aisyiyah Ngemplak Sleman Superior Elementary School. The research participants consisted of 4th grade and 5th grade mathematics teachers, as well as students from both classes. The selection of participants is carried out purposively, namely based on the consideration that the teacher has implemented learning with the concept of zakat and the students have participated in the learning.

The data collection techniques used in this study include; Observation, the researcher makes direct observations in the classroom during the learning process. This observation aims to see how teachers integrate the concept of zakat in teaching addition and subtraction operations, as well as how students respond to the method. Observation is carried out in a participatory manner, where the researcher only records and documents the activities that occur and is directly involved in the learning process. Interview, An in-depth interview is conducted with a math teacher to get more detailed information about planning, implementation, and evaluation of learning with the concept of zakat. Interviews were also conducted with several students to find out their perceptions and experiences during the learning. Interviews with students are conducted in a semi-structured manner to provide space for students to express their opinions and experiences freely.

Data Analysis Technique, data analysis is carried out in a qualitative descriptive manner, with the following steps; Data reduction, data obtained from observations, interviews, and documentation are reduced by selecting data that is relevant to the focus of the research. Irrelevant data is ignored to facilitate further analysis. Data Presentation, Data that has been reduced is then presented in the form of a descriptive narrative. The presentation of this data includes a detailed description of the learning process, the interaction between teachers and students, and students' responses to learning with the concept of zakat. Drawing conclusions, the researcher draws conclusions based on the data that has been presented. This conclusion includes the main findings of the research, such as the effectiveness of the use of the concept of zakat in teaching addition and subtraction operations, as well as the factors that support or hinder the learning process.

Validity and Reliability, To ensure the validity and reliability of the data, the researcher uses a triangulation technique, namely by comparing data from various sources (observation, interviews, and documentation). In addition, the researcher also conducts a member check by confirming provisional findings to the research participants to ensure that the interpretation of the data is in accordance with reality.

Result And Discussion

1. Implementation of the Concept of Zakat in Learning in Elementary Schools

Integrating the concept of zakat in mathematics learning in primary schools is expected to provide several benefits (Tantowie & Fuadi, n.d.-b). First, students can learn mathematics in a context that is meaningful and relevant to their lives (Purnomo, 2024). Second, teaching mathematics in the context of zakat can increase students' understanding of the concept of zakat itself, thereby fostering awareness and social responsibility from an early age (Supriyadi, 2020). Third, this approach can help teachers in creating a more interesting and interactive learning atmosphere, so that it can increase student learning motivation (Ulum, 2023).

a. Learning planning with the concept of zakat

1. Identify Learning Objectives

Identify the basic competencies to be achieved in learning addition and subtraction operations. For example, students are able to solve addition and subtraction problems correctly. The learning objective is to formulate specific, measurable, and relevant goals, such as "Students can solve the problem of addition and subtraction in the context of zakat with 90% accuracy."

2. Analysis of the Concept of Zakat

The definition of Zakat teaches the definition of zakat, its types (zakat mal, zakat fitrah), and the importance of zakat in Islam (Trihantana, 2015). The Practical Context relates the concept of zakat to the daily life of students, such as the collection of zakat, the distribution of zakat, and the calculation of the amount of zakat that must be paid.

3. Integration of the Concept of Zakat with Mathematics Materials

Addition and subtraction in zakat, explains how addition and subtraction operations are used in the context of zakat, for example calculating the total zakat collected from several donors or reducing the amount of zakat after distribution. Examples of Contextual Questions, making mathematical problems based on the situation of zakat, such as calculating the total zakat collected from several individuals or institutions, calculating the remaining zakat after distribution to mustahik (zakat recipients).

4. Desain activity in Pembelajaran

Group Discussion, organizes group discussions on the importance of zakat and how the calculation of zakat is carried out. Students can share their knowledge and experience about zakat in their families or communities. Simulation and Games, making a simulation of the collection and distribution of zakat as an interactive learning activity. For example, students play the role of zakat and mustahik collectors, then they calculate and distribute zakat according to the rules. Practice Questions, provide practice questions related to zakat to practice students' addition and subtraction skills.

5. Use of Learning Tools and Media

Visual Aids, using graphs, tables, and diagrams to visualize zakat data, helps students understand the concept of addition and subtraction in a real context. Multimedia, using videos or interactive presentations about zakat, shows the process of collecting and distributing zakat that can inspire students.

6. Evaluation and Assessment

Formative Assessment, conducting formative evaluations during learning through quizzes, questions and answers, and direct observation of student participation in activities. Summative assessment, holding a final test or project that requires students to solve the problem of addition and subtraction in the context of zakat, to measure the achievement of learning objectives. Feedback provides constructive feedback to students based on the results of the evaluation, helping them understand their strengths and weaknesses in the material being taught.

7. Reflection and Development

Teacher Reflection, after learning, the teacher reflects on the effectiveness of the methods used, analyzes what works and what needs to be improved. Curriculum Development, based on reflection and feedback, teachers can further develop the curriculum, add a variety of teaching methods and enrich the learning content with more contextual examples and activities. Example of a Daily Lesson Plan Learning Objectives, Students are able to solve addition and subtraction problems in the context of zakat correctly.

Learning Steps :

1. Introduction (10 minutes)

Opening with a brief explanation of zakat and its importance in Islam. Explain the learning objectives of the day.

2. Core (60 minutes) Presentation (15 minutes)

The teacher explained the concept of zakat with visual examples. Then, continued with a group discussion (20 minutes), students were divided into several small groups to discuss examples of zakat addition and subtraction. Simulation (15 minutes) Students simulate the collection and distribution of zakat. Practice Questions (10 minutes), Students work on zakat-based addition and subtraction problems individually.

3. Closing (10 minutes)

Discuss the answers to practice questions together. Provide feedback and conclude today's learning.

With careful and contextual learning planning like this, it is hoped that students can more easily understand and master the operation of addition and subtraction, as well as instill useful religious and social values.

b. Application of zakat teaching methods and strategies in addition and subtraction operations.

1. Understanding Basic Concepts

Introduction to Zakat, teaches students about the basic concepts of zakat, including definitions, types of zakat (zakat mal, zakat fitrah), and the importance of zakat in Islamic teachings. This knowledge is the foundation for students to understand the application of mathematics in the context of zakat. Basic Mathematical Operations, ensuring that students have a solid understanding of addition and subtraction operations before integrating the concept of zakat. This can be done through hands-on teaching and basic practice.

2. Contextual Integration

Summing in the Context of Zakat, teaches summation through relevant examples, such as calculating the total zakat collected from several donors. For example, if there are three donors who give 100,000, 150,000, and 200,000 rupiah respectively, students are invited to add up the total zakat collected. Deduction in the Context of Zakat, teaches deduction with an example of zakat distribution. For example, of the total zakat collected of 450,000 rupiah, the zakat is distributed to three recipients of 100,000 rupiah each, so students are asked to calculate the remaining zakat.

3. Use of Active Learning Methods

Group Discussion, encourages students to discuss in small groups about how to calculate zakat and its distribution. These discussions help students share their knowledge and understanding of zakat and mathematical operations. Simulation and Role-Playing, simulating the collection and distribution of zakat. Students play the role of zakat collectors and mustahik (zakat recipients), which they then calculate and distribute their zakat according to the rules that have been taught. Case Studies provide case studies that involve the calculation of zakat in real or simulated situations. Students are asked to solve addition and subtraction problems based on the case study.

4. Use of Visual and Media Aids

Diagrams and Tables use diagrams and tables to help students visualize zakat data and the calculation process. For example, a table that shows the amount of zakat collected from various donors and how the zakat is distributed. The Education Video shows a video explaining the process of collecting and distributing zakat, as well as the importance of zakat in Islam. These videos can provide visual context that helps students understand the material better.



5. Practice and Evaluation

Practice Questions, provide practice questions that involve addition and subtraction in the context of zakat. For example, questions that ask students to calculate the total zakat from several sources or calculate the remaining zakat after it has been distributed. Quizzes and Tests, hold short quizzes or daily tests to measure students' understanding of mathematical operations in the context of zakat. Group Project, assigns a group project in which students must design and solve zakat-related problems, such as calculating zakat that must be paid by a family or community.

6. Giving Feedback

Constructive Feedback, providing constructive feedback on student work. Explain their strengths and weaknesses in solving math problems and how they can improve them. Reflection Together, holding reflection sessions with students to discuss what they have learned, the difficulties they faced, and how they can improve their understanding.

7. Strengthening Social and Religious Values

Character building, teaching social and religious values through the concept of zakat, such as the importance of sharing and helping others. It not only helps students understand mathematical concepts, but also shapes their character. The Real Application, associates learning with real activities, such as organizing zakat collection activities at school or participating in community zakat programs. It provides students with first-hand experience of the importance of zakat and how mathematics is used in real life.

With the application of these methods and strategies, learning addition and subtraction operations becomes more interesting, relevant, and meaningful for students. They not only learn mathematics, but also understand the important values taught in Islam through the concept of zakat. It helps create a holistic learning experience, integrating cognitive, affective, and social aspects.

Examples of questions and learning activities that use the concept of zakat

1. Example of Summing Questions in the Context of Zakat

Question 1. A donor gave mall zakat of 200,000 rupiah. The second donor gave zakat of 150,000 rupiah, and the third donor gave zakat of 250,000 rupiah. How much is the total zakat collected?

Answer:

$$200,000 + 150,000 + 250,000 = 600,000 \text{ rupiah}$$

Question 2. The zakat institution receives zakat fitrah from 10 families, each amounting to 30,000 rupiah per family. How much is the total zakat fitrah collected?

Answer:

$$10 \times 30,000 = 300,000 \text{ rupiah}$$

2. Examples of Deduction Questions in the Context of Zakat

Question 1. The total zakat collected in a mosque is 1,000,000 rupiah. The zakat was distributed to 4 recipients with each receiving 200,000 rupiah. How much zakat has not been distributed?

Answer:

$$1,000,000 - (4 \times 200,000) = 1,000,000 - 800,000 = 200,000 \text{ rupiah}$$

Question 2. An amil zakat institution receives zakat of 500,000 rupiah. The institution distributed zakat to 5 mustahik people with each receiving 80,000 rupiah. How much is the remaining zakat after distribution?

Answer:

$$500,000 - (5 \times 80,000) = 500,000 - 400,000 = 100,000 \text{ rupiah}$$

3. Learning Activities Using the Concept of Zakat

Activity 1: Group Discussion on Zakat Calculation

Steps:

1. Group Division: Divide students into small groups.
2. Case Giving: Give different cases to each group, for example calculating zakat mal from the total assets owned or zakat fitrah from the number of family members.
3. Discussion: Ask each group to discuss and complete the calculation of zakat based on the given case.
4. Presentation: Each group presents the results of their discussion in front of the class.

Activity 2: Simulation of Zakat Collection and Distribution

Steps:

1. Preparation: Prepare toy money and cards that represent donors and mustahik.
2. Division of Roles: Students are divided into roles as donors, amil zakat (zakat collectors), and mustahik (zakat recipients).
3. Zakat Collection: Donors give zakat to amil zakat who records the amount of zakat received.
4. Distribution of Zakat: Amil zakat distributes zakat to mustahik in accordance with the calculation that has been set.



5. Evaluation: Students jointly calculate the total zakat collected and distributed, as well as the remaining zakat if any.

Activity 3: Case Study of Zakat Calculation

Steps:

1. Case Study: Give a case study to students, for example a farmer has a crop worth 2,000,000 rupiah after deducting production costs. Calculate the zakat that must be paid if the nisab of agricultural zakat is 653 kilograms equivalent to 1,950,000 rupiah, and the zakat paid is 5%.
2. Completion: Students are asked to complete the zakat calculation based on the case study.
3. Discussion: Discuss the answers together in class, explain the calculation steps and why they are important.

Activity 4: Group Project - Zakat Campaign in Schools

Steps:

1. Project Description: Explain that each group will create a campaign about the importance of zakat.
2. Research: Each group conducts research on zakat, its types, and the importance of zakat in helping others.
3. Creation of Campaign Materials: The group makes posters, brochures, or presentations that explain the calculation of zakat and its impact.
4. Presentation: Groups present their campaigns in front of a class or school.
5. Reflection: discuss how mathematical calculations are applied in the zakat campaign and how this activity helps them understand the operations of addition and subtraction.

By using these examples of learning questions and activities, students can understand the operation of addition and subtraction in a real and meaningful context, as well as gain a deeper understanding of zakat and its importance in social life.

d. Students' response to learning mathematics with the concept of zakat.

1. Increased Concept Understanding

Related to Daily Life, Students stated that learning mathematics through the concept of zakat makes it easier for them to understand addition and subtraction operations. The examples given related to their daily lives, such as the collection and distribution of zakat, help them see how mathematics is applied in real situations. Visualization of Mathematical Concepts, Some students feel that the use of visual aids such as diagrams, tables, and simulations makes the concept of addition and subtraction easier to understand and remember.

2. Motivation and Interest in Learning

Interesting and Interactive Learning, Students feel that learning with the concept of zakat is more interesting and interactive than traditional methods. Activities such as group discussions, simulations, and group projects make them more engaged and motivated to learn. Active Engagement: Students feel more excited to engage in learning when they can actively participate in activities such as simulations of zakat collection and distribution.

3. Development of Social and Religious Values

Social Awareness, Students admit that this learning helps them understand the importance of zakat in helping others and sharing sustenance. They feel more inspired to get involved in social and charitable activities. Religious Understanding, Students stated that through this learning, they not only learn mathematics but also deepen their understanding of Islamic teachings, especially about zakat.

4. Challenges and Difficulties

Limited Initial Knowledge about Zakat, Some students initially experience difficulties due to a lack of prior knowledge about zakat. However, after getting further explanations from the teacher, they can follow the learning better. Complexity of Calculations: Some students feel that the calculation of zakat, especially when it involves large amounts or different types of zakat, can be complex. However, they feel helped by the practice and examples given.

5. Feedback and Suggestions

Positive Feedback: Students gave positive feedback on this learning approach, stating that they felt more confident in solving addition and subtraction problems. Demand for More Interactive Activities, Students suggest that more interactive and contextual activities be included in future math learning. They feel that this approach makes learning more enjoyable and meaningful.

6. Influence on Collaborative Skills

Cooperation and Collaboration, Students feel that group activities help them develop cooperation and collaboration skills. They learn to work together in solving problems and to respect the opinions of their peers. Critical Discussions: Group discussions encourage students to think critically and analytically, and teach them how to discuss and debate constructively.

Case Study of Student Response

Case 1: Grade 4

Positive Response, Students in this class showed high enthusiasm for learning mathematics with the concept of zakat. They feel more interested and motivated to learn because the material taught is directly related to their lives. Grade Improvement, After the application of this method, the average grade of the class in the math test increased significantly, indicating that the students' comprehension of addition and subtraction operations became better.

Case 2: Grade 5



Active Involvement, Students are highly involved in the simulation of zakat collection and distribution. They enjoyed the roles given and felt that this activity helped them understand mathematical concepts better. Social Awareness, Students admit that they have become more aware of the importance of zakat and feel motivated to get involved in charitable activities in their community. With a learning approach that integrates the concept of zakat, students not only gain a better understanding of addition and subtraction operations, but also develop important social and religious values. Positive responses from students show that this method is effective in increasing motivation and interest in learning, as well as helping them apply mathematical concepts in real-life contexts.

Conclusion

The integration of the concept of zakat in mathematics learning in elementary schools has proven to be effective in improving students' understanding of addition and subtraction operations. This approach not only makes learning more engaging and relevant, but it also helps to instill social and religious values. Studies show that through this method, students become more motivated and actively involved in the learning process, as well as experience a significant improvement in their understanding of mathematical concepts. Interactive activities such as group discussions and zakat collection simulations are very helpful in developing students' collaborative skills and social awareness. Thus, this approach makes a positive contribution to mathematics education and student character development.

References

- Kurniawati, L., Miftah, R., & Muin, A. (n.d.). Literasi Matematis Konteks Keislaman: Implementasi pada Siswa Madrasah/Sekolah Islam di Indonesia. *Repository.Uinjkt.Ac.Id*, Query date: 2024-06-03 21:06:58. <https://repository.uinjkt.ac.id/dspace/bitstream/123456789/70495/1/Buku%20%20Referensi%20Literasi%20Konteks%20Keislaman.pdf>
- Purnomo, S. (2024). Meningkatkan Literasi Numerasi Melalui Pembelajaran Berbasis Masalah Berkonteks Islam dengan Berbantuan Geogebra. *Jurnal Axioma: Jurnal Matematika Dan Pembelajaran*, Query date: 2024-06-03 21:22:09. <https://ejournal.uj.ac.id/index.php/AXI/article/view/2541>
- Supriyadi, K. (2020). Islamication Efforts in Learning Mathematics. *Al Amin: Jurnal Kajian Ilmu Dan Budaya Islam*, Query date: 2024-06-03 21:22:09. <http://jurnal.stitalamin.ac.id/index.php/alamina/article/view/70>
- Tantowie, T., & Fuadi, D. (n.d.-a). Upaya Meningkatkan Kemampuan Menghitung melalui Media Konkret Koin Warna (Kancing) pada Mata Pelajaran Matematika Madrasah Ibtidaiyah. *Scholar.Archive.Org*, Query date: 2024-06-03 21:06:58. <https://scholar.archive.org/work/j2que37cn5b3dgvuurat4bgblq/access/wayback/https://riset-iaid.net/index.php/bestari/article/download/407/564>
- Tantowie, T., & Fuadi, D. (n.d.-b). Upaya Meningkatkan Kemampuan Menghitung melalui Media Konkret Koin Warna (Kancing) pada Mata Pelajaran Matematika Madrasah Ibtidaiyah. *Scholar.Archive.Org*, Query date: 2024-06-03 21:22:09. <https://scholar.archive.org/work/j2que37cn5b3dgvuurat4bgblq/access/wayback/https://riset-iaid.net/index.php/bestari/article/download/407/564>
- Trihantana, S. (2015). ... ZAKAT, INFAQ DAN SHADAQAH. MEMBERS OF THE ARMY REVENUE ANALYSIS OF COMPLIANCE OBLIGATIONS ZAKAT, INFAQ AND

- SADAQAH. *Jurnal Syarikah Vol, Query date: 2024-06-03 21:22:09.*
<https://www.academia.edu/download/72278683/32.pdf>
- Ulia, N., Sari, Y., & Hariyono, M. (2020). Pengaruh bahan ajar konsep dasar matematika berbasis internalisasi nilai-nilai islam terhadap sikap religius. *Jurnal Studi Guru Dan Pembelajaran, Query date: 2024-06-03 21:06:58.* <https://e-journal.my.id/jsqp/article/view/154>
- Ulum, M. (2023). *ANALISIS KEMAMPUAN PEMAHAMAN KONSEP MATEMATIKA SISWA BERBASIS MEDIA YOUTUBE PADA MATERI OPERASI BILANGAN BULAT.* repository.unissula.ac.id. <http://repository.unissula.ac.id/id/eprint/31749>
- Wahyu, S. A. (2022). *PENGARUH MODEL PEMBELAJARAN KONTEKSTUAL DAN MINAT BELAJAR SISWA TERHADAP HASIL BELAJAR MATEMATIKA PADA SISWA KELAS VI Query date: 2024-06-03 21:06:58.* https://eprints.uinsaizu.ac.id/14568/1/Tesis%20Arief%20Wahyu%20Setiawan_201763026.pdf
- Wahyuni, M. (2021). *Pemahaman dan perhitungan Zakat Perdagangan: Telaah etnomatematika pengusaha rumah makan di Kota Gresik. Query date: 2024-06-03 21:06:58.* <https://core.ac.uk/download/pdf/479354947.pdf>
- YULIANA, R. (2021). ... *ZAKAT DAN INFAQ/SEDEKAH BERDASARKAN STANDAR AKUNTANSI KEUANGAN (PSAK 109) PADA LEMBAGA AMIL ZAKAT, INFAQ DAN SEDEKAH Query date: 2024-06-03 21:22:09.* <http://repository.uiad.ac.id/id/eprint/998/1/RESKI%20YULIANA.pdf>