The Role Of Spiritual Intelligence Of Students In Mathematical Learning

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Abstract

One of the students' accomplishments in learning is influenced by internal factors. Spiritual intelligence is one of the aspects that can impact students’ achievement. Students’ spiritual intelligence is varied. This is a literature review research. The aim of this study is to find out the role of students’ spiritual intelligence in learning mathematics. The data collected in the form of data obtained from articles and proceedings taken from the best Google scholar web. Data collection was carried out by going through the stages of planning, searching for articles, and documentation. Based on the data, the researcher then conducted tabulation and in-depth analysis of the collected data. Finally, based on the steps that have been determined, the researcher got the result. The results of the research regarding the role of students' spiritual intelligence in learning mathematics are: 1) students' spiritual intelligence can influence students' motivation to learn mathematics, higher spiritual intelligence will result higher motivation to learn mathematics, 2) higher spiritual intelligence will affect lower students' mathematics anxiety, 3) there is a linear relationship between students' spiritual intelligence and literacy abilities, 4) higher the spiritual intelligence will result higher students' mathematical problem solving abilities, and 5) higher spiritual intelligence will result higher achievement/study of mathematics students

Keywords: Spiritual intelligence, Mathematics learning
Abstrak

Keberhasilan siswa dalam belajar salah satunya dipengaruhi oleh faktor internal. Salah satu faktor internal yang mampu mempengaruhi keberhasilan siswa dalam belajar adalah kecerdasan spiritual. Kecerdasan spiritual yang dimiliki siswa berbeda-beda. Jenis penelitian ini adalah penelitian review literature. Melihat peran kecerdasan spiritual siswa dalam pembelajaran matematika adalah tujuan dari penelitian ini. Data-data yang dikumpulkan berupa data yang diperoleh dari artikel dan prosiding yang diambil dari web best google scholar. Pengumpulan data dilaksanakan dengan melalui tahapan perencanaan, pencarian artikel, dan dokumentasi. Berdasarkan data yang tekumpul, selanjutnya peneliti melakukan tabulasi dan analisis mendalam terhadap data yang terkumpul. Terakhir, berdasarkan langkah-langkah yang sudah ditentukan peneliti melakukan penyimpulan data berdasarkan data yang diperoleh. Hasil penelitian terkait peran kecerdasan spiritual siswa dalam pembelajaran matematika antara lain: 1) kecerdasan spiritual siswa mampu mempengaruhi motivasi belajar matematika siswa, semakin tinggi kecerdasan spiritual siswa maka semakin tinggi motivasi belajar matematikanya, 2) semakin tinggi kecerdasan spiritual siswa semakin rendah kecemasan matematika siswa, 3) terdapat hubungan yang linier antara kecerdasan spiritual siswa dengan kemampuan literasi matematika siswa, 4) semakin tinggi kecerdasan spiritual siswa maka semakin tinggi juga kemampuan penyelesaian masalah matematika siswa, dan 5) semakin tinggi kecerdasan spiritual siswa maka semakin tinggi prestasi/hasil belajar siswa matematika siswa.

Kata Kunci: Kecerdasan spiritual, Pembelajaran matematika.
Introduction

Two factors determine an individual's success: internal and external factors. Spiritual intelligence is one of the internal factors of success. According to Hoffman, an individual's success in life is defined not just by academic brilliance but also by spiritual intelligence.\(^1\) Spiritual intelligence is an individual's ability to process norms, values, and his subconscious mind's power.\(^2\) Spiritual intelligence can guide him in doing self-transcendence.\(^3\) Complexly, Agustian sees it as the ability of an individual to lead and explain the meaning of worship by honest thoughts directed towards intergalactic ideas (tawhid) and to the Khaliq alone.\(^4\) According to Zohar and Marshall, spiritual intelligence is the summit of intelligence or high intelligence.\(^5\) This intelligence can supply someone with lofty ideas so that they can provide outstanding moral direction, discriminate between right and wrong, and ultimately attain life success.

Likewise, internal and external factors affect a student's performance in learning. This is supported by data that highlight the features of students' educational difficulties or success.\(^6\) Spiritual intelligence is one internal factors that contributes significantly to students' academic achievement. Student success in education is the aim of every individual, with student achievement indicating student success. Academic grades show learning achievement as the completion of learning outcomes.\(^7\) Spiritual intelligence can provide an individual/student with the effect of a serene mind, awakening their

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efficiency. Learning is the process of selecting, rejecting, and assessing human values. Intelligence that can supply critical thinking and investigate his advantages.

Numerous studies have been conducted on the significance of spiritual intelligence in students. Research on students’ spiritual intelligence is generally related to school/mosque-based education. Handayani, Sriwati, et al., Hasmi, Efendi, Rimelvi, & Susanti, dan Handriani & Subhan, Researching the correlation between spiritual intelligence and student learning, he concluded that spiritual intelligence significantly impacts student achievement/outcomes and motivation. The greater a student's spiritual intelligence, the greater their motivation to learn. Radhitya Arief Noerpratama and Endang Sri Indrawati Vaesol Wahyu Eka Irawan, Devi Permatasari, Ahmad Razak dkk. Numerous studies have established a connection between this spiritual intelligence and student learning. In general, the findings indicate that spiritual intelligence substantially affects education.

Based on the immense role of students' spiritual intelligence in learning, researchers attempt to investigate its role in mathematical learning. Due to the researchers' findings, only a small number of researchers have studied spiritual intelligence and linked it to mathematical learning. This is the first time anyone has conducted exhaustive research on the role of spiritual intelligence in mathematical learning. This research aims to give information on students' spiritual intelligence in mathematical learning and enhances the findings of previous studies on spiritual intelligence and mathematical learning.

Research Methods

The researcher selects a literature review as the type of research to conduct. Researchers conducted a literature review of published articles and conference proceedings. This study sought to establish the role of spiritual intelligence in mathematical learning. This study's data was gathered from articles and proceedings published in national journals and hearings. The researcher performs the following data collection procedures so that the gathered data can be used to answer the research questions: (1) planning; at this stage, the researcher develops research methods, including the formulation of study questions. (2) Search for articles; at this step, the researcher collects data from the best Google scholar; articles and proceedings articles obtained or gathered are categorised according to their categories. (3) Documentation: At this step, the researcher carefully gathered the papers, described and composed the selected articles and proceedings, and obtained results that answered the study topic.

Based on these steps, the researcher obtains articles or proceedings from the Best Google Scholar data, tracked by Google Search. Based on this Google search, eleven reports on this research topic were produced. I obtained one article on spiritual intelligence and motivation to learn mathematics, two articles on spiritual intelligence and mathematical problem solving one on spiritual intelligence and mathematical anxiety, and seven on spiritual intelligence and student achievement in learning mathematics. The researcher then did tabulations and an in-depth analysis of the acquired data based on the collected data. Based on the defined steps, the researcher draws conclusions based on existing data.
Results and Discussion

Results

This investigation yielded a study of many research publications in journal articles and conference proceedings. These articles were selected randomly from the most relevant Google Scholar data using a Google search and a password for the correlation or effect of spiritual intelligence on mathematical learning. Through google search, is retrieved 10 articles. The retrieved articles studied the correlation between spiritual intelligence and mathematical learning motivation, mathematical literacy, solving mathematical problems, mathematical anxiety, and achievement/outcome of learning mathematics. Grouping publications relevant to the effect of spiritual intelligence on motivation to learn mathematics obtained 1 report.

Table 1. Spiritual Intelligence Affects Mathematical Learning Motivation

<table>
<thead>
<tr>
<th>Researcher and Year</th>
<th>Research Result</th>
</tr>
</thead>
</table>

From table 1, it can be inferred that spiritual intelligence affects students' motivation to learn mathematics. Other facets of the importance of spiritual intelligence in mathematical learning are illustrated in Tables 2, 3, 4, and 5.

Table 2. Spiritual Intelligence is Inversely Proportional to Mathematical Anxiety.

<table>
<thead>
<tr>
<th>Researcher and Year</th>
<th>Research Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maharani, R. (2018)22</td>
<td>The greater the spiritual intelligence, the less the mathematical anxiety level</td>
</tr>
</tbody>
</table>

The statistics in table 2 pertain to students' spiritual intelligence and math anxiety. Contribution of Spiritual Intelligence and Logical-Mathematical Intelligence to Solving Proof Problems and Mathematical Anxiety. Where is Maharani's research findings, this concludes that students' math anxiety depends on the level of spiritual intelligence in students. This indicates that the level of mathematical anxiety among students varies, with students with low spiritual intelligence having a high level of anxiety, students with moderate spiritual intelligence having a reasonable level of anxiety, and students

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with high spiritual intelligence having a low level of anxiety. According to these studies, the spiritual intelligence of students in learning mathematics is inversely proportional to their mathematical worry.

Table 3. Spiritual Intelligence Affects Mathematical Literacy Skills.

<table>
<thead>
<tr>
<th>Researcher and Year</th>
<th>Research Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurjamil, et al. (2021)(^{23})</td>
<td>There is a correlation between students’ mathematical literacy skills and spiritual intelligence.</td>
</tr>
</tbody>
</table>

According to table 3, the research outcomes on the correlation between students' mathematical literacy skills and their spiritual intelligence indicate a correlation between students' spiritual intelligence and their mathematical literacy skills in school.

Table 4. Spiritual Intelligence Affects the Ability to Solve Mathematical Problems.

<table>
<thead>
<tr>
<th>Researchers and Years</th>
<th>Research Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maharani, R. (2018)(^{24})</td>
<td>There is a correlation between spiritual intelligence and the outcomes of solving mathematical problems. The greater the spiritual intelligence, the more the ability to solve mathematical problems</td>
</tr>
<tr>
<td>Maharani, R. (2019)(^{25})</td>
<td></td>
</tr>
</tbody>
</table>

According to table 4, researchers that examined the correlation between spiritual intelligence and students' mathematical problem-solving abilities discovered a correlation between students' spiritual intelligence and their ability to solve teacher-assigned mathematical problems. Moreover, a correlation exists between students' spiritual intelligence and their capacity to answer mathematical issues. This suggests that the stronger the spiritual intelligence of students, the greater their ability to solve mathematical problems. Conversely, the lower their spiritual intelligence, the poorer their outcomes in solving mathematical problems.


\(^{24}\) Maharani, ‘Kontribusi Kecerdasan Spiritual Dan Kecerdasan Matematis Logis Terhadap Penyelesaian Masalah Pembuktian Dan Kecemasan Matematika’.

Table 5. Spiritual Intelligence Affects Mathematical Learning Outcomes

<table>
<thead>
<tr>
<th>Researchers and Years</th>
<th>Research Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purbaningrum, K. A. (2018)</td>
<td></td>
</tr>
<tr>
<td>Kasanah, N. (2021)</td>
<td></td>
</tr>
<tr>
<td>Abdillah, (2013)</td>
<td></td>
</tr>
<tr>
<td>Nurdiiantsyah, E. (2016)</td>
<td>Spiritual intelligence is influential and significant to the mathematics learning outcomes.</td>
</tr>
<tr>
<td>Afrianti, &amp; Imamuddin, (2022)</td>
<td></td>
</tr>
<tr>
<td>Imron, et al. (2016)</td>
<td>Spiritual intelligence does not affect significantly mathematical learning achievement.</td>
</tr>
</tbody>
</table>

Table 5 displays data acquired on spiritual intelligence data and mathematical learning outcomes for students. There is a positive association between students' mathematical learning achievement and spiritual intelligence; moreover, students' spiritual intelligence significantly and considerably affects students' mathematical learning achievement/outcomes. The greater the students' spiritual intelligence, the greater their mathematical learning achievement/outcomes.

Discussion

Spirituality is the main topic of study in the 2013 curriculum and has spiritually been demonstrated to be a basic competency (kd 1). The objective of kd 1 religious education is to produce students with an impressive religious background. Therefore,
teaching in schools and madrasas must equip students with religious intelligence in all subjects. Students are not just proficient in terms of subject matter but also on a spiritual level. Scientific and spiritual students represent the generation this nation hopes for. Since, in 2045, one of the golden generations of Indonesians must possess scientific and religious/spiritual wisdom.

Spiritual intelligence is the ability of an individual to guide and explain the significance of worship to the Khaliq through sincere ideas towards cosmic thoughts (monotheism) and morality.\textsuperscript{34} It is the pinnacle or highest level of intelligence.\textsuperscript{35} Intelligence that can supply critical thinking and investigate its advantages.\textsuperscript{36} Spiritually intelligent students can think critically and organise their learning at school. The spiritual intelligence of homeschooled students might aid in education, particularly in mathematics.

Spiritual intelligence can boost the motivation of students to learn mathematics.\textsuperscript{37} This is consistent with this study's conclusion that spiritual intelligence affects students' mathematical learning motivation.\textsuperscript{38} Spiritual intelligence can increase students' willingness to learn mathematics and reduce their arithmetic fear. The greater the spiritual intelligence of students, the greater their ability to manage their numerical anxieties. This is consistent with this study's conclusion that the spiritual intelligence of students is inversely connected to their level of mathematics-learning anxiety. The higher the level of spiritual intelligence among students, the lower the level of math anxiety among students. The lower the level of spiritual intelligence among students, the higher the level of math anxiety.\textsuperscript{39}

In addition to great self-motivation and the ability to effectively manage arithmetic anxiety, students must possess solid math literacy. Since mathematics literacy is an essential life skill for the future.\textsuperscript{40}\textsuperscript{41}\textsuperscript{42} As a future-oriented skill, teachers are

\textsuperscript{34} Agustian.
\textsuperscript{35} King.
\textsuperscript{36} King.
\textsuperscript{37} Permatasari, Razak, and Bakar.
\textsuperscript{38} Basuki.
\textsuperscript{39} Maharani, ‘Kontribusi Kecerdasan Spiritual Dan Kecerdasan Matematis Logis Terhadap Penyelesaian Masalah Pembuktian Dan Kecemasan Matematika’.
obligated to educate students on mathematical literacy; thus, students will possess this skill. This study discovered a correlation between spiritual intelligence and mathematical literacy among students. This is consistent with the conclusion that spiritual intelligence is favourably associated with mathematical literacy in students.  

Mathematical literacy is the first step in problem-solving for students. The capacity to answer arithmetic issues is crucial for students to solve teacher-assigned mathematical problems. Future survival requires the ability to solve problems.  

Spiritual intelligence is related to students' problem-solving abilities; the more substantial the students' spiritual intelligence, the greater their capacity to solve mathematical problems.

Spiritual intelligence has a multifaceted role in improving student success and outcomes in mathematics. The results of daily examinations, midterm examinations, and end-of-semester examinations are used to measure the learning outcomes. Spiritual intelligence affects the learning outcomes of students. In addition, spiritual intelligence positively and substantially affects mathematical learning outcomes. The more spiritually advanced the students, the greater the student learning outcomes.

Based on the review of the data mentioned above, it is expected that teachers will be able to cultivate students' spiritual intelligence through education, particularly in mathematics. Since it has an established role in mathematical learning, it can promote mathematical learning motivation, reduce mathematics anxiety, improve mathematical learning outcomes.

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43 Nurjamil, Saepulloh, and Listyasari.
46 Rizqona Maharani.
48 Abdillah.
49 Basuki.
50 Sagala, Wibawanta, and Appulembang.
51 Purbaningrum.
52 Kasanah.
53 Nurdiansyah.
54 Afrianti and M. Imamuddin.
literacy skills and problem-solving abilities, and improve students' mathematical learning outcomes. Thus, as a teacher, one must develop students' spiritual intelligence in learning mathematics so that they have high obedience to al-Khaliq and high-level thinking so that they might lead to worldly and eternal happiness.

**Conclusion**

Based on the discussion, the following conclusion may be made on the role of students' spiritual intelligence in studying mathematics: 1) students' spiritual intelligence can affect students' mathematical learning motivation; the more significant the students' spiritual intelligence, the more the mathematical learning motivation, 2) the more significant the students' spiritual intelligence, the fewer students' mathematical anxiety, 3) there is a linear correlation between students' spiritual intelligence and students' mathematical literacy abilities, 4) the higher the students' spiritual intelligence, the more the students' ability to solve the mathematical problem and 5) the more significant the students' spiritual intelligence, the more the achievement/mathematics learning outcomes. It is suggested that teachers consider the spiritual intelligence of their students since spiritual intelligence plays a crucial role in supporting and enhancing mathematical learning achievement among students. It is recommended that researchers, students, and education observers continue investigating the correlation between spiritual intelligence and mathematical learning. The shortage of this study is the requirement for more data relating to spiritual intelligence and mathematical learning; hence the data utilised in this study are limited.
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