**Multiple Intelligences on Science Teachers’ Productivity in the school system**

**Abstract**

This study aims to determine the effect of independent variables, namely emotional intelligence, spiritual intelligence, and interpersonal intelligence, on the dependent variable, namely teacher productivity. This study uses a quantitative approach with data analysis techniques using the Pearson product-moment correlation test. The test was carried out with the help of SPSS 25 software. Data were collected using a survey involving 250 junior high school teachers in Jambi City and Muaro Jambi Regency. The sample in this study, both schools and teachers, were selected randomly; in this case, there was no special consideration made by the researcher in determining the sample. The study results showed that the three independent variables, namely EQ, SQ, and Interpersonal intelligence, positively correlate with science teacher productivity. The correlation between each independent variable, namely emotional intelligence, spiritual intelligence, and interpersonal intelligence, with the dependent variable (science teacher productivity) is 0.694, 0.512, and 0.515, each having an asterisk. Thus, it can be understood that the highest correlation with science teacher productivity is emotional intelligence, with a correlation of 0.694. The implication of this research, that the efforts to improve emotional intelligence and spiritual intelligence for students in order to create a productive generation can be made in several ways, including through learning oriented toward religious education

**Keywords**: Emotional Intelligence, Spiritual Intelligence, Interpersonal Intelligence, and work productivity.

**Introduction**

Education is a fundamental part of shaping human civilization. Through education, various potentials of students can be developed and modified by the times. Therefore, the development and development of education, both physically and non-physically, is essential. The main goal is to create a quality education process so that developing student potential is also of quality. Quality processes and results enable the formation of a quality civilization based on human life's norms, values ​​, and goals. In essence, quality education guarantees the development of sustainable civilization (MuhammedZein & Abdullateef, 2025).

Professional, creative, innovative, dynamic, and responsive teachers must create a quality education process. This is in line with the opinion of Purwantiningsih and Suharso (2019) endorsed that improving quality education can be done by improving teacher professionalism. Teachers with these characteristics enable them to work more productively. Meanwhile, teachers who are creative, innovative, dynamic, and responsive have the potential to be more productive in carrying out the planning, implementation, and assessment of student learning outcomes. In short, teachers with creative, innovative, dynamic, and responsive characters or more productive teachers have the potential to create new ideas or concepts to encourage the creation of quality education. Productive teachers also can increase student learning productivity (R. T. Putri, 2025).

Teacher productivity can be measured through various indicators in the education and learning process context. Briefly, Hua (2024) stated that teacher productivity in their teaching duties includes planning, implementation, evaluation, analysis, and enrichment. Galang et al. (2024) and Aditya et al. (2024) explained that measuring teacher productivity can be based on the following indicators, namely: 1) Teachers prepare learning plans, 2) Teachers are present in the implementation of the learning process, 3) Teachers make and develop teaching aids to facilitate learning, 4) Teachers provide assessments of student learning outcomes, learning tests and final exams.

Various efforts have been made to increase teacher productivity in their teaching duties. These efforts include implementing artificial intelligence integration in automatic assessment and learning systems (Kritandani et al., 2024; Vieriu & Petrea, 2025), personalizing adaptive learning, implementing collaboration-oriented management strategies (Bahera & Nurlina, 2024), conducting special coaching or supervision by the principal for teachers (Irawan, 2022; Junawi, 2024), conditioning the atmosphere or conditions of the workspace (Eyo et al., 2024). However, the efforts to increase teacher productivity above are not fundamental and have not been able to solve the existing problems fully. One of the main reasons is that it is not based on the main factors that dominate the causes of productivity growth. To increase teacher productivity, one must understand the various factors influencing productivity.

Productivity is closely related to performance, and it is also related to a person's awareness, motivation, intelligence, and habits in carrying out their duties. Emotional intelligence is an important factor influencing teacher performance and productivity, abbreviated as EQ. Emotional intelligence is the intelligence to recognize and manage one's own and other people's emotions in a social relationship. Galang et al. (2024) wrote that EQ is a person's ability to recognize and control emotional signals and information. In their research, Kim (2019) and Marlin et al. (2024) also stated that emotional intelligence includes self-control, enthusiasm, perseverance, and the ability to motivate oneself. Thus, it can be understood that a person's emotional intelligence is closely related to their situation and condition, both in terms of work and in terms of building their social relationships.

Empirically, emotional intelligence significantly impacts a person's behavior in carrying out daily activities. A person with good emotional intelligence tends to be more prosperous in living his life, both in personal and social life and even in work. The impact of a person's EQ on life success is based on several research results, including the research results of Dayanti et al. (2024) found that a student with good EQ abilities tends to have good learning outcomes or learning achievements. Setyaningrum & Maharani (2024) also found that pleasing EQ positively impacts employee performance and professionalism. Bhatt (2024) and Sharma (2024) also found that EQ positively impacts a person's ability to lead a team. Therefore, it can be understood that EQ positively impacts a person's success in achieving their life goals.

In addition to emotional intelligence, another factor that influences teacher productivity is spiritual intelligence. Spiritual intelligence is a person's ability to apply divine traits or values ​​in everyday life. Sinchana and Joy (2023) explain that spiritual intelligence creates goodness, truth, beauty, and compassion in our daily lives, families, organizations, and institutions. In line with this opinion, Fachrur Razi (2024) explains that spiritual intelligence is a state a person feels when facing a problem or attitude that can potentially develop a person's personality. Baykal (2024) states that SQ is essential for a person's success in the workplace, and Nilsson (2024) states that it is one of the fundamental components of social workers. Thus, theoretically, spiritual intelligence impacts a person's performance and productivity in daily activities.

In an empirical context, spiritual intelligence also positively impacts human life in living their lives. The results of Febriana et al.'s research. (2024) stated that there is a significant influence between spiritual intelligence and stress levels in adolescents. The results of Siswa et al.'s research (2024) show a strong relationship between spiritual intelligence and the noble personality of students at SMP Negeri 1 Cibungbulang. In addition, Aini's research (2023) results also found that spiritual intelligence significantly positively affects the level of accounting understanding. (Shanmughom et al., 2024) also found that SQ greatly influences the success of employee performance. The study's results above show that spiritual intelligence impacts human life, both in the context of education and in other social life.

Another factor that affects teacher productivity is interpersonal intelligence. Interpersonal intelligence is the ability to communicate with others, work together in a team or group, and motivate friends. Meanwhile, McGann & De Jaegher (2009) argue that interpersonal intelligence is the mastery of perceiving and distinguishing other people's feelings, intentions, desires, and impulses of others and the skill of providing appropriate responses. In short (Al Farisi and Indra, 2022) explain that interpersonal intelligence is a person's ability to be sensitive to the feelings of others. Referring to the explanation above, it can be understood that interpersonal intelligence is building positive relationships with others, including communicating and collaborating. Therefore, interpersonal intelligence is very much needed in the context of work and has the potential for a person's success.

Regarding the opportunity for intelligence to have an impact on the success of human life, several studies have proven this. The results of Nasution & Syarqawi's (2023) study show that someone with high interpersonal intelligence has the potential to become a leader in handling a problem or dispute that occurs with his friends. In addition, people with good interpersonal intelligence also have good problem-solving skills. This is based on the results of the study (Hikmah & Eva, 2021), which shows that interpersonal intelligence significantly influences the ability to solve mathematical problems. Thus, it can be understood that interpersonal intelligence plays an important role in improving the quality of human life, both individually and socially.

Theoretically, the three factors above, namely EQ, SQ, and interpersonal intelligent, play a role in influencing a person to carry out their duties or responsibilities. However, empirically, no research has directly connected these variables, especially about teacher productivity in carrying out their duties, especially science teachers. This is important considering that, in general, science teachers rarely receive structured training to improve EI, SI, and II from the government. On the other hand, science teachers have a crucial and fundamental role in improving education in general. Therefore, the productivity of science teachers must receive serious attention. Thus, it is fundamental to conduct research to know/find the dominant factors that influence the productivity of science teachers in carrying out their duties and responsibilities.

**Method**

This study aims to determine the effect of independent variables, namely emotional intelligence, spiritual intelligence, and interpersonal intelligence, on the dependent variable, namely science teacher productivity. This study uses a quantitative approach. As Abduh et al. (2022) suggested, data was collected using survey techniques because this study involved respondents' attitudes or opinions. Technically, data collected using this survey technique also refers to the opinion of Riadi et al. (2022). The survey research involved 250 junior high school teachers in Jambi City and Muaro Jambi Regency.

The sample in this study, schools and teachers, were selected randomly concerning the opinion to increase the accuracy of the research results. In addition, no special considerations were made by researchers when determining the sample in sampling. The instruments used in data collection were developed independently by researchers by referring to the indicators of each variable that experts have put forward. The emotional intelligence indicator refers to the opinion of Hilton et al. (2013), with indicators including (a) understanding one's own emotions, (b) managing emotions, (d) empathy, and (e) social skills. The spiritual intelligence variable refers to the opinion of Rohimah et al. (2024), which involves the following indicators: (a) creating goodness, (b) the ability to uphold the truth, (c) creating affection in our daily lives, (d) maintaining harmony in the family, and (e) contributing to organizations and institutions. As for the interpersonal intelligence variable, it refers to the opinion of Nasution & Syarqawi (2023) by involving the following indicators: (a) the ability to communicate with others, (b) working together in a team or group, and (c) being able to motivate their friends. Data analysis using the Pearson product-moment correlation test was carried out with the help of SPSS 25 software.

**Results and Discussion**

As previously mentioned, this study aims to determine the effect of independent variables, namely emotional intelligence, spiritual intelligence, and interpersonal intelligence, on the dependent variable, namely teacher productivity. To achieve this goal, this study uses a quantitative survey involving 250 junior high school teachers in Jambi City and Muaro Jambi Regency. Based on the results of the survey and data analysis with the help of SPSS 25, the test results can be seen in Table 1 below:

|  |
| --- |
| **Table 1. Correlations table** |
|  | EQ | SQ | Interpersonal | Productivity |
| EQ | Pearson Correlation | 1 | .557\*\* | .115 | .694\*\* |
| Sig. (2-tailed) |  | .000 | .069 | .000 |
| N | 250 | 250 | 250 | 250 |
| SQ | Pearson Correlation | .557\*\* | 1 | .172\*\* | .512\*\* |
| Sig. (2-tailed) | .000 |  | .007 | .000 |
| N | 250 | 250 | 250 | 250 |
| Interpersonal | Pearson Correlation | .115 | .172\*\* | 1 | .515\*\* |
| Sig. (2-tailed) | .069 | .007 |  | .000 |
| N | 250 | 250 | 250 | 250 |
| Productivity | Pearson Correlation | .694 | .512\*\* | .515\*\* | 1 |
| Sig. (2-tailed) | .140 | .077 | .818 |  |
| N | 250 | 250 | 250 | 250 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

Based on the table above, it can be seen that the correlation between each independent variable, namely emotional intelligence, spiritual intelligence, and interpersonal intelligence, on the dependent variable (science teacher productivity) is 0.694, 0.512, and 0.515, with each having an asterisk. This means that each independent variable positively and significantly influences the dependent variable at a significance level 0.001. Thus, it can be understood that the better a person's emotional intelligence, the better their productivity. Likewise, the better a person's spiritual intelligence, the better their work productivity, and the better their interpersonal intelligence, the better their productivity.

Referring to the test results above, of the three variables measured, emotional intelligence has a greater influence than other independent variables. 0.694. Thus, the answer to this research question is which is more influential between emotional intelligence, spiritual intelligence, and interpersonal intelligence than emotional intelligence is the answer. Therefore, although the three variables have been proven to have a positive and significant influence on the productivity of science teachers in carrying out their duties, efforts to increase teacher productivity can be developed through emotional intelligence training.

In general, the results of this study have strengthened the initial assumption and previous research that each independent variable measured has an important role and strong correlation with teacher productivity, including science teachers. This is as per the research results of Fachrur Razi (2024), which state that emotional and spiritual intelligence influence employee performance. In addition, research. In the context of education, the research results of Zhou et al. (2024) state that emotional intelligence and spiritual intelligence influence student achievement and learning outcomes and behavior. Likewise, related to interpersonal intelligence, research by Putri et al. (2022) found that interpersonal intelligence influences a person's communication skills. In addition, the research results also show that interpersonal intelligence improves learning achievement (Saragih, 2023), self-adjustment ability, and even students' self-actualization. Thus, there is no doubt that interpersonal intelligence plays an important role and is closely related to the productivity of a science teacher.

The results of the study provide implications that increase the productivity of science teachers in carrying out their teaching duties, and it is necessary to support them with adequate emotional intelligence, spiritual intelligence, and interpersonal intelligence. Therefore, the authorities, in this case, the government and the teacher association, must take fundamental and systematic steps to improve these elements. Efforts to increase the productivity of science teachers must consider the most influential elements (in this case, emotional intelligence) and then be followed by other elements.

Psychologically, teachers are adults; thus, increasing emotional, spiritual, and interpersonal intelligence can be done independently through various social activities. Social activities that can potentially increase emotional and spiritual intelligence include religious and cultural activities. In addition, several activities can potentially increase emotional and spiritual intelligence in the context of work (as a science teacher), for example, by conducting subject-teacher deliberation activities, collaborative activities in learning, lesson study activities, and several other activities. The various social activities above have an excellent opportunity to increase the three intelligences together. However, this still needs to be studied in depth.

From an educational perspective, efforts to improve emotional intelligence and spiritual intelligence for students in order to create a productive generation can be made in several ways, including through learning oriented toward religious education, through Islamic counseling guidance, through systematic third/Islamic education (Aji, 2024). More systematically, Jaelani (2019) explains that emotional and spiritual intelligence can be improved through activities: 1) Teaching and Learning Activities, there are (a) the addition of religious subjects, (b) the addition of aqidah and moral lessons, (c) reading of prayers before and after learning; 2) Ubudiyah Activities, there are: (a) congregational Duha prayer, (b) reading of short surahs, (c) religious tourism; 3) Social Activities, including (a) orphanage assistance, (b) sharing with the poor, (c) social service. In order to improve interpersonal intelligence can be done in several ways, including through learning with role-playing methods, playing ball in pairs (Hasibuan, 2024), and implementing learning with story methods.

**Conclusion**

Based on the results of data collection and analysis that have been carried out, at the end of the study, it can be concluded that the correlation or influence between each independent variable, namely emotional intelligence, spiritual intelligence, and interpersonal intelligence, on the dependent variable (science teacher productivity) is 0.694, 0.512 and 0.515 with each having an asterisk. This means that each independent variable positively and significantly influences the dependent variable at a significance level 0.001. Thus, it can be understood that the better a person's emotional intelligence, the better their productivity. Likewise, the better a person's spiritual intelligence, the better their work productivity, and the better their interpersonal intelligence, the better their productivity.

**Disclaimer (Artificial intelligence)**

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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