**Cakrawala Pendidikan**
**Jurnal Ilmiah Pendidikan**
Vol. X No. X, February XXXX, pp.1-14
https://journal.uny.ac.id/index.php/cp/issue/view/xxxx
DOI: https://doi.org/10.21831/cp.v43i1.xxxxx

# The Influence of Emotional, Spiritual, and Intellectual Intelligence on Student Learning Effectiveness

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**ABSTRACT**

Student success in higher education relies not only on intellectual ability but also on emotional management and personal spirituality. This study aims to analyze the influence of emotional intelligence, spiritual intelligence, and intellectual intelligence on student learning effectiveness in Padang City. This quantitative research employed a survey method involving 122 respondents. Data were analyzed using multiple linear regression, which included validity, reliability, and classical assumption tests using SPSS and Python software. The results indicate that simultaneously, the three intelligences significantly influence learning effectiveness. Partially, intellectual intelligence has the strongest and most significant influence (p=0.000), followed by spiritual intelligence (p=0.046). However, emotional intelligence was found to have no significant partial influence (p=0.374). This regression model explains 49.2% of the variance in learning effectiveness. It is concluded that although intellectual ability remains dominant, the spiritual aspect serves as a crucial supporting factor in optimizing student learning outcomes.

**Keywords:** emotional intelligence, spiritual intelligence, intellectual intelligence, learning effectiveness, students

**Article history**

| *Received:* | *Revised:* | *Accepted:* | *Published:* |
|---|---|---|---|
| *18 December 2025* | *date* | *date* | *date* |

**Citation (APA Style):** To be added by editorial staff during production

## INTRODUCTION

Student success in the learning process is a complex phenomenon that does not rely solely on a single aspect of intelligence. Traditionally, intellectual intelligence has often been regarded as the primary indicator of academic success (Syah, 2017). However, reality demonstrates that cognitive ability alone does not guarantee the achievement of optimal learning effectiveness. Students also require the ability to manage emotions and possess a strong spiritual foundation.

Emotional intelligence plays a crucial role in assisting students to understand their own feelings, adapt, and interact positively with the campus social environment Meanwhile, spiritual intelligence provides moral directio (Goleman, 2020). Meanwhile, spiritual intelligence provides moral direction ands deep significance to the learning process itself (Zohar & Marshall, 2000). The synergy between these two aspects is crucial in maintaining student motivation, focus, and resilience in achieving optimal learning effectiveness.

In Padang City, students face various academic and social pressures that demand self-management capabilities as well as emotional and spiritual stability. Field observations indicate that learning effectiveness among students varies significantly, even though they receive the same learning experience and curriculum. This disparity indicates the need for an evaluation of students' internal factors beyond cognitive aspects.

This study aims to determine the extent of the relationship and influence of emotional intelligence, spiritual intelligence, and intellectual intelligence on the learning effectiveness of students in Padang City. Through this research, it is expected that empirical evidence regarding the contribution of each type of intelligence will be found, thereby providing insights for the development of more holistic learning methods.

## METHOD

### Research Type

This study employs a quantitative approach with a survey method to measure the influence between variables numerically. The population in this study consists of students domiciled in Padang City. The sampling technique was carried out through the distribution of questionnaires, yielding a total of 122 valid respondent data.

### Population and Research Sample

The population in this study includes active students of Politeknik Negeri Padang. The sampling technique was conducted using a survey method, resulting in a total of 122 valid respondent data. The sample data structure in this study applies a unique data splitting scheme into two groups. The first group consists of 97 respondents (data 1-97), which is allocated as training data for the purposes of regression model building, validity testing, reliability testing, and hypothesis testing. The second group consists of 25 respondents (data 98-122), which is used as testing data to evaluate the model's prediction performance using the Mean Squared Error (MSE) parameter.

### Research Variables and Instruments

This study operationalizes three independent variables and one dependent variable. The independent variables consist of Emotional Intelligence (X1), Spiritual Intelligence (X2), and Intellectual Intelligence (X3), while the dependent variable is Student Learning Effectiveness (Y). The data collection instrument uses a closed-ended questionnaire with a Likert Scale (Sugiyono, 2019).

### Data Analysis Techniques

Data processing and analysis were conducted with the assistance of IBM SPSS Statistics software and VSCode (Python) to validate the computational results. The analysis stages began with instrument quality tests (validity and reliability), followed by classical assumption tests, which include the residual normality test, multicollinearity test, and heteroscedasticity test, to ensure the regression model meets the Best Linear Unbiased Estimator (BLUE) criteria. Hypothesis testing was performed using multiple linear regression analysis to examine the partial influence (t-test) and simultaneous influence (F-test), as well as to evaluate the model's strength through the Coefficient of Determination.

Tabel 1. Research Instrument Grids

| Variable | Indicator |
|---|---|
| **Learning Effectiveness (Y)** | 1. Motivation and learning participation [2] |
| | 2. Ability to understand material [3] |
| | 3. Study time management [4] |
| | 4. Independence and learning responsibility [5] |
| | 5. Learning results and satisfaction [6] |
| **Emotional Intelligence (X1)** | 1. Self-awareness [7] |
| | 2. Self-regulation [8] |
| | 3. Self-motivation [9] |
| | 4. Empathy [10] |
| | 5. Social skills [11] |
| **Spiritual Intelligence (X2)** | 1. Meaning and purpose of life [12] |
| | 2. Spiritual self-awareness [13] |

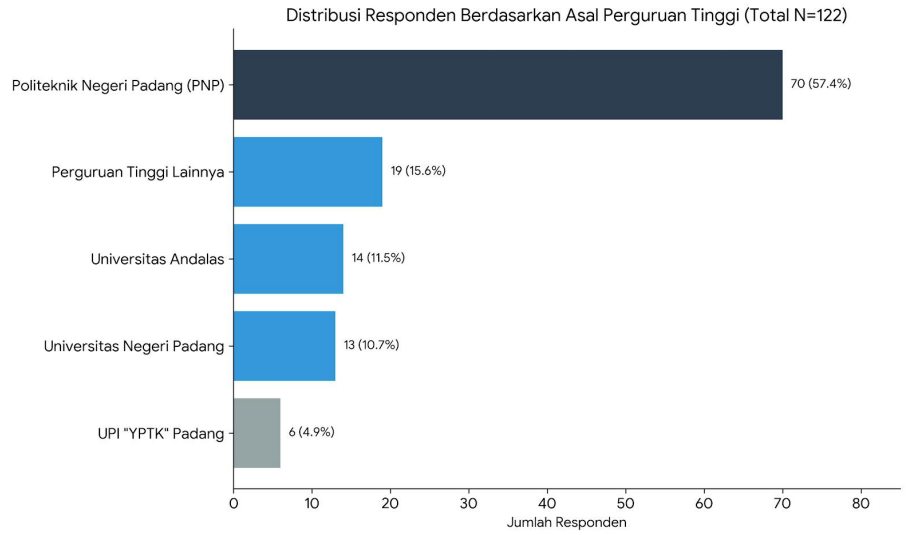
| | |
|---|---|
| | 3. Values and honesty [14]<br>4. Perseverance and patience [15]<br>5. Gratitude and spiritual self-control [16] |
| **Intellectual Intelligence (X3)** | 1. Numerical Ability [17]<br>2. Spatial Ability [18]<br>3. Associative Memory Ability [19]<br>4. Perceptual Speed [20]<br>5. Reasoning Ability [21] |

## FINDINGS AND DISCUSSION

### Respondent Characteristics

Prior to conducting further statistical analysis, the respondents' profiles were mapped based on their university of origin to illustrate the distribution of the sample's academic backgrounds. A total of 122 students from various higher education institutions were analyzed.

The majority of respondents originated from Politeknik Negeri Padang (PNP), comprising 70 students (57.4%). This high participation rate from PNP is attributable to the researcher's greater accessibility within that campus environment. However, the study maintained data diversity by including respondents from Universitas Andalas (11.5%), Universitas Negeri Padang (10.7%), and Universitas Putra Indonesia "YPTK" Padang (4.9%). Additionally, there was participation from other institutions, such as Poltekkes Kemenkes Padang and Universitas Syedza Saintika, as well as several campuses outside West Sumatra, each contributing less than 2%.




Gambar 1. Diagram Presentase Responden

### Validity and Reliability Test Results

This study involved 122 respondents consisting of active students. Prior to conducting inferential analysis, data quality was assessed to ensure that the instruments used were consistent and accurate in measuring the research variables.

Validity testing was conducted to ensure the accuracy of the instrument in measuring the research variables. The testing criteria utilized a comparison between the calculated r-value

$r_{count}$ and the $r_{table}$ value $r_{table}$. With a sample size (N) of 97 respondents, the $r_{table}$ value at a 5% significance level is 0.1996. A statement item is declared valid if it possesses an $r_{count}$ value > $r_{table}$ and a significance value < 0.05.

Based on the analysis of a total of 39 statement items representing four research variables, it was found that all items had correlation values above the threshold of 0.1996. This indicates that the instrument employed possesses good construct validity and was correctly understood by the respondents (Ghozali, 2018).

Tabel 2. Summary of Validity Test Results

| Variable | Item Code | rhitung | rtabel | Description |
|---|---|---|---|---|
| **Emotional Intelligence (X1)** | X1.1 | 0.501 | 0.1996 | Valid |
| | X1.2 | 0.592 | 0.1996 | Valid |
| | X1.3 | 0.760 | 0.1996 | Valid |
| | X1.4 | 0.737 | 0.1996 | Valid |
| | X1.5 | 0.645 | 0.1996 | Valid |
| | X1.6 | 0.697 | 0.1996 | Valid |
| | X1.7 | 0.574 | 0.1996 | Valid |
| | X1.8 | 0.629 | 0.1996 | Valid |
| | X1.9 | 0.691 | 0.1996 | Valid |
| | X1.10 | 0.703 | 0.1996 | Valid |
| **Spiritual Intelligence (X2)** | X2.1 | 0.707 | 0.1996 | Valid |
| | X2.2 | 0.756 | 0.1996 | Valid |
| | X2.3 | 0.632 | 0.1996 | Valid |
| | X2.4 | 0.609 | 0.1996 | Valid |
| | X2.5 | 0.773 | 0.1996 | Valid |
| | X2.6 | 0.644 | 0.1996 | Valid |
| | X2.7 | 0.748 | 0.1996 | Valid |
| | X2.8 | 0.700 | 0.1996 | Valid |
| | X2.9 | 0.764 | 0.1996 | Valid |
| | X2.10 | 0.670 | 0.1996 | Valid |
| **Intellectual Intelligence (X3)** | X3.1 | 0.644 | 0.1996 | Valid |
| | X3.2 | 0.666 | 0.1996 | Valid |
| | X3.3 | 0.758 | 0.1996 | Valid |
| | X3.4 | 0.659 | 0.1996 | Valid |
| | X3.5 | 0.668 | 0.1996 | Valid |
| | X3.6 | 0.790 | 0.1996 | Valid |
| | X3.7 | 0.741 | 0.1996 | Valid |
| | X3.8 | 0.813 | 0.1996 | Valid |
| | X3.9 | 0.767 | 0.1996 | Valid |
| | X3.10 | 0.680 | 0.1996 | Valid |
| **Learning Effectiveness (Y)** | Y.1 | 0.456 | 0.1996 | Valid |
| | Y.2 | 0.586 | 0.1996 | Valid |
| | Y.3 | 0.629 | 0.1996 | Valid |
| | Y.4 | 0.629 | 0.1996 | Valid |
| | Y.5 | 0.638 | 0.1996 | Valid |
| | Y.6 | 0.634 | 0.1996 | Valid |
| | Y.7 | 0.555 | 0.1996 | Valid |
| | Y.8 | 0.709 | 0.1996 | Valid |
| | Y.9 | 0.624 | 0.1996 | Valid |

Based on the validity test results, it was determined that all statement items for the variables Emotional Intelligence (X1), Spiritual Intelligence (X2), Intellectual Intelligence (X3),

and Learning Effectiveness (Y) possess a calculated r-value $r_{count}$ greater than the r-table value $r_{table}$ of 0.1996 at a 5% significance level with a sample size (N) of 97 respondents. Furthermore, the significance value (p-value) for all statement items was recorded as less than 0.05. Thus, it can be concluded that all indicators and statement items within this research instrument are declared statistically valid and suitable for use in the subsequent data collection stage.

Based on the reliability test results using Cronbach's Alpha, a value of 0.847 was obtained for variable X1, which consists of 10 statement items. This value falls within the range of \$0.70 $\alpha$ < 0.90\$, indicating that the research instrument is declared **RELIABLE (Good)**. Consequently, the questionnaire for variable X1 possesses a good level of consistency and is appropriate for use in research data collection.

Tabel 3. Reliability Test Results

| Variable | Cronbach's Alpha | N of Items | Kategori |
|---|---|---|---|
| Emotional Intelligence (X1) | 0.847 | 10 | Reliable |
| Spiritual Intelligence (X2) | 0.884 | 10 | Reliable |
| Intellectual Intelligence (X3) | 0.895 | 10 | Very Reliable |
| Learning Effectiveness (Y) | 0.786 | 9 | Reliable |

**Classical Assumption Test**

To ensure that the generated regression model is a Best Linear Unbiased Estimator (BLUE) and free from bias, a series of classical assumption tests were conducted, encompassing tests for normality, multicollinearity, and heteroscedasticity.

The first stage in verifying the suitability of the regression model is the normality assumption test, which aims to examine whether the distribution of residuals within the regression model is normally distributed. Based on the results of the Kolmogorov-Smirnov non-parametric statistical test, an asymptotic significance value of 0.200 was obtained, which is well above the significance level of 0.05 (Sig. > 0.05).

These findings indicate that, statistically, the data follows a normal distribution perfectly. This implies that the regression model has satisfied the assumption of residual normality without requiring a central limit approximation approach. Consequently, the use of parametric statistical methods in this analysis possesses very strong validity and is scientifically justifiable.

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Tabel 4. Normality Test Results

**Tests of Normality**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| Unstandardized Residual | .074 | 95 | .200* | .977 | 95 | .095 |

Subsequently, the model evaluation proceeded with a multicollinearity test to detect any strong linear correlations among independent variables that could bias the regression coefficient estimates. The diagnosis was performed by examining the Tolerance and Variance Inflation Factor (VIF) values.

The analysis results indicate that the Tolerance values for the variables Emotional Intelligence (X1), Spiritual Intelligence (X2), and Intellectual Intelligence (X3) all exceeded the minimum threshold of 0.10. Consistent with these findings, the VIF values obtained for the three variables fell within the range of 1.9 to 2.5, which is well below the maximum limit of 10.

Based on these empirical indicators, it can be concluded that this regression model is free from multicollinearity issues. Consequently, the resulting regression coefficients are efficient and reflect the pure influence of each predictor variable.

Tabel 5. Multicollinearity Test Results

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | 9.699 | 2.778 | | 3.491 | .001 | | |
| | Kecerdasan Emosional | .087 | .101 | .104 | .865 | .389 | .385 | 2.595 |
| | Kecerdasan Spritual | .185 | .095 | .221 | 1.944 | .055 | .430 | 2.324 |
| | Kecerdasan Intelektual | .346 | .078 | .459 | 4.435 | .000 | .521 | 1.920 |

a. Dependent Variable: Efektivitas Pembelajaran Mahasiswa

TFinally, heteroscedasticity testing was conducted using the Glejser test to ensure that the residual variance remains constant (homoscedastic) across all observations. In this test, the absolute values of the residuals were regressed against the independent variables.

The statistical analysis results indicate that the significance probability values for Emotional Intelligence (X1) were 0.973, Spiritual Intelligence (X2) were 0.619, and Intellectual Intelligence (X3) were 0.243.

Given that these three significance values are greater than the significance level $a$ = 0.05, there is insufficient evidence to reject the hypothesis of homoscedasticity. Thus, this regression model is declared free from symptoms of heteroscedasticity, implying that the model possesses a consistent level of prediction precision across various data levels.

Tabel 6. Heteroscedasticity Test Results

| Model | B | Std. Error | t | Sig. | Keterangan |
|---|---|---|---|---|---|
| (Constant) | -1.140 | 1.806 | -0.631 | 0.530 | Tidak Signifikan ✓ |
| X1 | -0.002 | 0.066 | -0.034 | 0.973 | Homoskedastisitas ✓ |
| X2 | 0.031 | 0.061 | 0.498 | 0.619 | Homoskedastisitas ✓ |
| X3 | 0.059 | 0.051 | 1.175 | 0.243 | Homoskedastisitas ✓ |

**Multiple Linear Regression Analysis Results**

Based on the multiple linear regression analysis, the resulting structural equation model is expressed as:

$$Y = 9.651 + 0.089X1 + 0.189X2 + 0.342X3$$

Partial evaluation via the t-test on the Intellectual Intelligence variable (X3) yielded a calculated t-value $t_{count}$ of 4.438 with a significance level of 0.000 (< 0.05). The regression coefficient value of 0.342 demonstrates a positive relationship direction, indicating that any increase in intellectual ability will have a direct impact on learning effectiveness. This finding confirms that intellectual intelligence has a positive and significant influence. Furthermore, the magnitude of this variable's regression coefficient was recorded as the largest (dominant) compared to other independent variables, asserting that aspects of numerical, verbal, and reasoning abilities constitute the primary determinants in achieving student learning effectiveness.

Subsequently, partial hypothesis testing on the Spiritual Intelligence variable (X2) demonstrated a significant influence on the dependent variable, evidenced by obtaining a $t_{count}$ of 2.019 and a significance value of 0.046 (< 0.05). The positive regression coefficient of 0.189 implies that spiritual values and the meaning of learning goals contribute linearly to the enhancement of learning effectiveness.

However, a different result was exhibited by the Emotional Intelligence variable (X1), which obtained a $t_{count}$ of 0.894 with a significance of 0.374 (> 0.05). This indicates that within this research model, emotional intelligence does not possess a partially significant influence on student learning effectiveness.

At the comprehensive model testing level, the simultaneous test (F-test) produced a calculated F-value $F_{count}$ of 30.078 with a significance probability of 0.000 (< 0.05). This result empirically proves that the variables of emotional, spiritual, and intellectual intelligence collectively constitute valid and significant predictors of learning effectiveness.

The explanatory power of the model is indicated by an Adjusted R Square value of 0.492, meaning that 49.2% of the variation in student learning effectiveness can be explained by the interaction of these three independent variables. Conversely, the remaining variance of 50.8% is explained by other determinant factors outside this regression model that were not examined within the scope of this study.

Tabel 7. Hasil Analisis Regresi Linear Berganda

| **Variable** | **Regression Coefficient (B)** | **t-hitung** | **Sig.** |
|---|---|---|---|
| (Constant) | 9,651 | - | - |
| Emotional Intelligence (X1) | 0,089 | 0,894 | 0,374 |
| Spiritual Intelligence (X2) | 0,189 | 2,019 | 0,046 |
| Intellectual Intelligence (X3) | 0,342 | 4,438 | 0,000 |
| **F-hitung** = 30,078 | | | |
| **Sig. F** = 0,000 | | | |
| **Adjusted ($R^2$)** = 0,492 | | | |

**Discussion**

This study aims to evaluate the influence of emotional, spiritual, and intellectual intelligence on student learning effectiveness. Based on the data analysis results, several compelling empirical facts were discovered that warrant further discussion.

First, Intellectual Intelligence (X3) proved to be the most dominant and significant predictor of learning effectiveness $t_{count}$ =4.438, p=0.000). This finding aligns with traditional academic views that cognitive abilities—such as reasoning, numerical ability, and memory—constitute the primary foundation for absorbing complex lecture (Slameto, 2015). Students with high intellectual capacity tend to comprehend abstract concepts and solve academic problems more easily, which directly contributes to their learning effectiveness.

Second, Spiritual Intelligence (X2) also demonstrated a positive and significant influence ( $t_{count}$ =2.019, p=0.046), although not as strong as intellectual intelligence. This indicates that students who possess an awareness of the meaning and purpose of learning, as well as values of honesty and perseverance, tend to have more stable internal motivation. Spirituality provides mental 'resilience' when students face academic pressure, ensuring that the learning process remains effective.

Third, a rather surprising finding is that Emotional Intelligence (X1) does not possess a partially significant influence on learning effectiveness within this model ( $t_{count}$ =0.894, p=0.374). This result diverges from some literature that emphasizes the importance of soft skills (Goleman, 2020; Petrides et al., 2004). This insignificance may be attributed to the characteristics of the curriculum or evaluation methods at the respondents' higher education institutions, which may still be heavily oriented toward cognitive attainment (exam scores/assignments) rather than collaborative aspects or emotional management. Additionally, it is possible that emotional intelligence operates indirectly (as a moderating variable) or that its effect is already captured by the interaction with other variables in the simultaneous test.

Simultaneously, the three variables contribute 49.2% ($AdjustedR^2$) toward learning effectiveness. This indicates that the model is a good fit; however, 50.8% of the variance is explained by other factors outside this model—such as campus facilities, lecturer competence, or economic conditions—which also influence student learning success.

## CONCLUSION

Based on the analysis and discussion results, it can be concluded that Intellectual Intelligence, Spiritual Intelligence, and Emotional Intelligence simultaneously exercise a significant influence on student learning effectiveness in Padang City. However, partially, only Intellectual Intelligence and Spiritual Intelligence demonstrate a significant influence, with Intellectual Intelligence emerging as the most dominant determinant. Conversely, Emotional Intelligence was not proven to have a significant direct influence on learning effectiveness in this study.

The implications of this study suggest that while the development of cognitive (intellectual) abilities remains the top priority within the higher education curriculum, the reinforcement of spiritual values also needs to be integrated to support students' mental resilience and motivation.

For future research, it is recommended to expand the independent variables by incorporating external factors (such as the learning environment or social support) and to broaden the sample scope to include more higher education institutions to obtain a more comprehensive overview.

## ACKNOWLEDGMENT

We express our deepest gratitude to God Almighty for His grace and mercy, which enabled the successful completion of this research.

We would also like to extend our sincere appreciation to the lecturer of the Statistics and Probability course at Politeknik Negeri Padang for the guidance, supervision, and knowledge provided.

Finally, our heartfelt thanks go to our parents and friends for their continuous moral and material support throughout the preparation of this study.

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