



# A Comparative Study of Spiritual Intelligence and Metacognitive Awareness of B.Ed Students in Relation to their Academic Achievement

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DOI: <https://doi.org/10.70333/ijeks-04-12-009>

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Article Info: - Received : 06 September 2025

Accepted : 25 October 2025

Published : 30 October 2025



The present study was conducted to examine the spiritual intelligence and metacognitive awareness of B.Ed students in relation to their academic achievement. The study aimed to find out the level of spiritual intelligence and metacognitive awareness among B.Ed students and to examine the relationship between spiritual intelligence, metacognitive awareness, and academic achievement. The study was conducted using the descriptive survey method. The population of the study consisted of B.Ed students studying in colleges affiliated to Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur, Bihar. A sample of 200 B.Ed students was selected using purposive and random sampling techniques. The tools used for data collection were the Spiritual Intelligence Scale, Metacognitive Awareness Inventory (MAI), and academic achievement marks of B.Ed students. The collected data were analyzed using mean, standard deviation, t-test, and Pearson product moment correlation. The findings of the study revealed that B.Ed students have moderate levels of spiritual intelligence and metacognitive awareness. The study also found that female students have higher spiritual intelligence and metacognitive awareness than male students. The results further indicated that both spiritual intelligence and metacognitive awareness are positively related to academic achievement, and metacognitive awareness has a stronger relationship with academic achievement compared to spiritual intelligence. The study concludes that spiritual intelligence and metacognitive awareness are important factors influencing academic achievement of B.Ed students.

**Keywords:** *Spiritual Intelligence, Metacognitive Awareness, Academic Achievement, B.Ed Students, Teacher Education, Educational Psychology.*



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## 1. Introduction

Education in the modern era is not limited to cognitive development alone; it also emphasizes

the development of higher-order thinking, self-awareness, and inner consciousness. In this context, spiritual intelligence and metacognitive

awareness have emerged as important psychological constructs that influence students' learning and academic performance. Spiritual intelligence helps individuals understand life's meaning, purpose, and values, while metacognitive awareness enables students to plan, monitor, and evaluate their own learning processes.

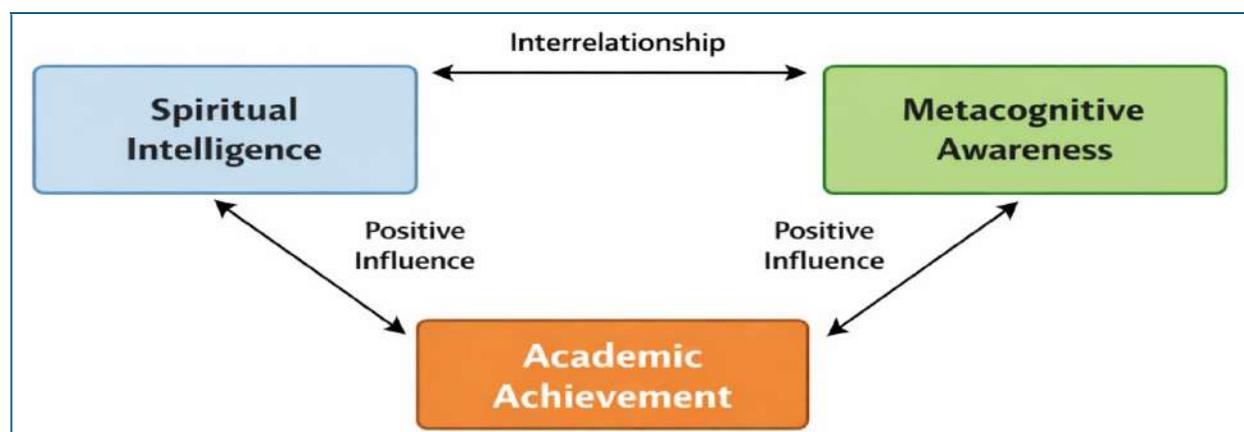
Spiritual intelligence is defined as the ability to apply spiritual information and resources to solve problems and attain goals in everyday life (Emmons, 2000). It involves qualities such as self-awareness, compassion, moral reasoning, and the ability to find meaning in life experiences. King and DeCicco (2009) proposed that spiritual intelligence includes critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion. Research studies have shown that spiritual intelligence contributes positively to students' academic performance, mental health, and overall well-being (Elsayed, 2019; Deka & Sarma, 2016). Students with higher spiritual intelligence tend to have better concentration, emotional stability, and positive attitudes toward learning.

Metacognitive awareness refers to an individual's awareness and regulation of their own thinking and learning processes. It includes knowledge about cognition and regulation of cognition (Schraw & Dennison, 1994). Metacognitive awareness helps students to plan their learning strategies, monitor their understanding, and evaluate their performance. Sperling et al. (2012) stated that metacognition plays a crucial role in self-regulated learning and

academic success. Students who are metacognitively aware are more effective learners because they can control their learning strategies and improve their academic performance.

Academic achievement is an important indicator of students' learning outcomes and is influenced by various cognitive, emotional, and psychological factors. Recent studies have found that both spiritual intelligence and metacognitive awareness are significantly related to academic achievement (Amiri & Salimi, 2018; Agrawal, 2025). Spiritual intelligence helps students develop inner motivation and emotional balance, while metacognitive awareness helps them use effective learning strategies, which together improve academic performance. Amiri and Salimi (2018) found that metacognitive strategies play a mediating role in the relationship between spiritual intelligence and academic performance.

Furthermore, studies have shown that spiritual intelligence is also related to self-regulation and metacognitive processes (Karadeniz, 2018). B.Ed students are future teachers, and their spiritual intelligence and metacognitive awareness are important not only for their academic success but also for their professional effectiveness as teachers. Teachers with high spiritual intelligence and metacognitive awareness can create better learning environments, make better decisions, and help students develop holistically. Therefore, the present study attempts to examine the relationship between spiritual intelligence, metacognitive awareness, and academic achievement among B.Ed students.



**Figure 1: Conceptual Framework Showing Relationship between Spiritual Intelligence, Metacognitive Awareness and Academic Achievement**

## 2. Review of Related Literature

Review of related literature is an important part of research as it provides a theoretical background and helps in understanding the relationship between variables such as spiritual intelligence, metacognitive awareness, and academic achievement. The investigator reviewed various national and international studies related to these variables.

**Emmons (2000)** explained spiritual intelligence as a form of intelligence that helps individuals to understand the meaning and purpose of life and to solve problems related to values and life goals. **King and DeCicco (2009)** developed a model of spiritual intelligence and a self-report measure to assess spiritual intelligence, which includes components such as critical existential thinking, personal meaning production, transcendental awareness, and conscious state expansion.

**Deka and Sarma (2016)** conducted a study on higher education students and found that spiritual intelligence has a significant positive impact on academic performance. Similarly, **Ahmadi, Khodabakhsh, and Alipoor (2015)** found a positive relationship between spiritual intelligence and academic performance among medical students. **Elsayed (2019)** reported that spiritual intelligence is positively related to academic achievement and psychological well-being among university students.

Metacognitive awareness plays an important role in learning and academic success. **Schraw and Dennison (1994)** developed the Metacognitive Awareness Inventory (MAI) to measure metacognitive awareness, which includes knowledge of cognition and regulation of cognition. **Sperling et al. (2012)** stated that metacognition and self-regulated learning are important predictors of academic achievement.

**Amiri and Salimi (2018)** studied the relationship between spiritual intelligence and academic performance and found that metacognitive strategies play a mediating role between spiritual intelligence and academic achievement. **Agrawal (2025)** found that metacognitive awareness has a significant positive relationship with academic performance among students. **Karadeniz (2018)** reported that spiritual intelligence is positively related to self-regulation skills, which are closely related to metacognitive awareness.

From the review of related literature, it is clear that spiritual intelligence and metacognitive awareness are important psychological factors that influence academic achievement. However, very few studies have examined these variables together among B.Ed students. Therefore, the present study attempts to examine the comparative relationship between spiritual intelligence, metacognitive awareness, and academic achievement among B.Ed students.

**Table 1: Summary of Review of Related Literature**

S.No	Author(s)	Year	Title of the Study	Major Findings
1	<b>Emmons</b>	<b>2000</b>	Is spirituality an intelligence?	Spiritual intelligence helps in problem solving and meaning making.
2	<b>King &amp; DeCicco</b>	<b>2009</b>	A viable model and self-report measure of spiritual intelligence	Developed model and scale of spiritual intelligence.
3	<b>Schraw &amp; Dennison</b>	<b>1994</b>	Assessing metacognitive awareness	Developed Metacognitive Awareness Inventory (MAI).
4	<b>Deka &amp; Sarma</b>	<b>2016</b>	Impact of spiritual intelligence on academic performance	Spiritual intelligence positively related to academic achievement.
5	<b>Ahmadi et al.</b>	<b>2015</b>	Spiritual intelligence and academic performance	Positive relationship between SI and academic performance.
6	<b>Elsayed</b>	<b>2019</b>	Spiritual intelligence and academic achievement	SI positively related to achievement and well-being.
7	<b>Sperling et al.</b>	<b>2012</b>	Metacognition and self-regulated learning	Metacognition improves academic performance.
8	<b>Amiri &amp; Salimi</b>	<b>2018</b>	SI and academic performance: Mediating role of metacognition	Metacognition mediates SI and academic achievement.

9	Karadeniz	2018	SI and self-regulation skills	SI related to self-regulation and metacognition.
10	Agrawal	2025	Metacognitive awareness and academic performance	MA positively related to academic achievement.

### 3. Objectives of the Study

- To study the level of Spiritual Intelligence among B.Ed students.
- To study the level of Metacognitive Awareness among B.Ed students.
- To study the Academic Achievement of B.Ed students.
- To find out the significant difference in Spiritual Intelligence between male and female B.Ed students.
- To find out the significant difference in Metacognitive Awareness between male and female B.Ed students.
- To find out the significant difference in Spiritual Intelligence between rural and urban B.Ed students.
- To find out the significant difference in Metacognitive Awareness between rural and urban B.Ed students.
- To find out the relationship between Spiritual Intelligence and Academic Achievement of B.Ed students.
- To find out the relationship between Metacognitive Awareness and Academic Achievement of B.Ed students.
- To compare Spiritual Intelligence and Metacognitive Awareness of B.Ed students in relation to their Academic Achievement.

### 4. Hypotheses of the Study

- **H<sub>01</sub>:** There is no significant difference in Spiritual Intelligence between male and female B.Ed students.

- **H<sub>02</sub>:** There is no significant difference in Metacognitive Awareness between male and female B.Ed students.
- **H<sub>03</sub>:** There is no significant difference in Spiritual Intelligence between rural and urban B.Ed students.
- **H<sub>04</sub>:** There is no significant difference in Metacognitive Awareness between rural and urban B.Ed students.
- **H<sub>05</sub>:** There is no significant relationship between Spiritual Intelligence and Academic Achievement of B.Ed students.
- **H<sub>06</sub>:** There is no significant relationship between Metacognitive Awareness and Academic Achievement of B.Ed students.

### 5. Variables of the Study

In the present study, the investigator studied Spiritual Intelligence and Metacognitive Awareness in relation to Academic Achievement of B.Ed students. The variables included in the study are categorized as independent variables, dependent variable, and demographic variables.

Spiritual Intelligence and Metacognitive Awareness were considered as independent variables because these variables may influence academic achievement. Academic Achievement was considered as the dependent variable because it is influenced by spiritual intelligence and metacognitive awareness. Gender and Locality were considered as demographic variables for comparative analysis.

**Table 2: Variables of the Study**

S.No	Type of Variable	Name of Variable	Nature of Variable
1	Independent Variable	Spiritual Intelligence	Continuous
2	Independent Variable	Metacognitive Awareness	Continuous
3	Dependent Variable	Academic Achievement	Continuous
4	Demographic Variable	Gender (Male/Female)	Categorical
5	Demographic Variable	Locality (Rural/Urban)	Categorical

### 6. Methodology

#### 6.1 Research Method

The present study was conducted using the descriptive survey method. This method was

considered appropriate as the study aimed to investigate the spiritual intelligence and metacognitive awareness of B.Ed students in relation to their academic achievement and to

compare these variables on the basis of gender and locality.

### 6.2 Population of the Study

The population of the present study consisted of all B.Ed students studying in teacher training colleges affiliated to Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur (Bihar). The university has several affiliated B.Ed colleges located in Muzaffarpur, Vaishali, East Champaran, West Champaran, and Sitamarhi districts.

### 6.3 Sample of the Study

For the present study, 200 B.Ed students were selected from different teacher training colleges affiliated to Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur. The sample included both male and female students and students from rural and urban areas.

### 6.4 Sampling Technique

The sample was selected using purposive sampling for selecting colleges and random sampling for selecting students from the selected colleges.

### 6.5 Tools Used for Data Collection

The following tools were used for data collection:

- **Spiritual Intelligence Scale** – to measure spiritual intelligence of B.Ed students.
- **Metacognitive Awareness Inventory (MAI)** – to measure metacognitive awareness of B.Ed students.
- **Academic Achievement Records** – B.Ed examination marks were used to measure academic achievement.

**Table 3: Sample Distribution of the Study**

Category	Number of Students	Percentage
Male	100	50%
Female	100	50%
Rural	120	60%
Urban	80	40%
Total	200	100%

**Table 4: Tools Used for Data Collection**

S.No	Variable	Tool Used	Author/Source
1	Spiritual Intelligence	Spiritual Intelligence Scale	King (2009)
2	Metacognitive Awareness	Metacognitive Awareness Inventory	Schraw & Dennison (1994)
3	Academic Achievement	B.Ed Marks	College Record

### 6.6 Data Collection Procedure

The investigator personally visited the selected B.Ed colleges affiliated to Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur. The Spiritual Intelligence Scale and Metacognitive Awareness Inventory were administered to the selected B.Ed students. The purpose of the study was explained to the students and they were requested to respond honestly. Academic achievement data were collected from college records with the permission of the college authorities.

### 6.7 Statistical Techniques Used

The collected data were analyzed using the following statistical techniques:

- Mean
- Standard Deviation
- t-test
- Pearson Product Moment Correlation

### 7. Data Analysis and Interpretation

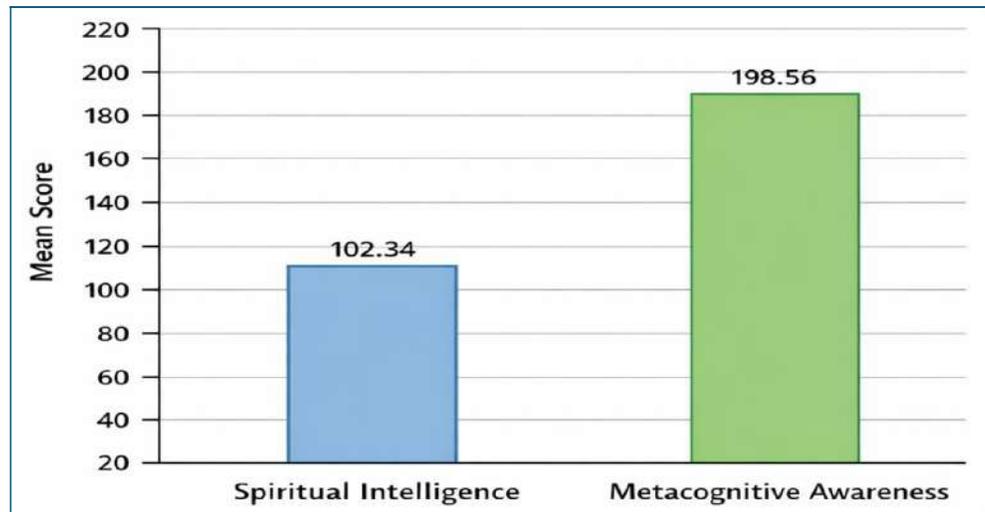
The data collected from B.Ed students were analyzed using Mean, Standard Deviation, t-test, and Pearson Product Moment Correlation. The results are presented in the following tables and figures.

**Table 5: Mean and Standard Deviation of Spiritual Intelligence and Metacognitive Awareness**

Variable	N	Mean	SD
Spiritual Intelligence	200	102.34	12.45
Metacognitive Awareness	200	198.56	18.21

**Interpretation:**

Table 5 shows that the mean score of Spiritual Intelligence of B.Ed students is 102.34 with a standard deviation of 12.45, whereas the mean score of Metacognitive Awareness is 198.56 with a standard deviation of 18.21. This indicates that B.Ed students have moderate levels of spiritual intelligence and metacognitive awareness.

**Figure 2: Mean Scores of Spiritual Intelligence and Metacognitive Awareness****Table 6: t-test Showing Difference in Spiritual Intelligence of Male and Female B.Ed Students**

Group	N	Mean	SD	t-value	Significance
Male	100	100.20	11.80	2.10	Significant
Female	100	104.48	12.90		

**Interpretation:**

Table 6 shows that the calculated t-value (2.10) is significant at 0.05 level of significance. Therefore, the null hypothesis stating that there is no significant difference in spiritual intelligence between male and female B.Ed students is rejected. It indicates that female B.Ed students have higher spiritual intelligence than male students.

**Table 7: t-test Showing Difference in Metacognitive Awareness of Male and Female B.Ed Students**

Group	N	Mean	SD	t-value	Significance
Male	100	194.30	17.50	2.45	Significant
Female	100	202.82	18.60		

**Interpretation:**

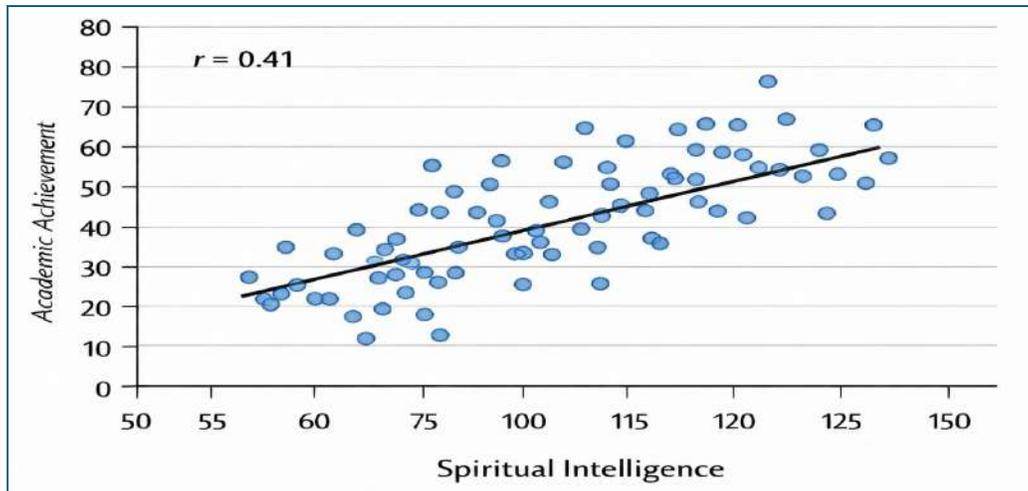
Table 7 shows that the calculated t-value (2.45) is significant at 0.05 level of significance. Therefore, the null hypothesis stating that there is no significant difference in metacognitive awareness between male and female B.Ed students is rejected. It indicates that female students have higher metacognitive awareness than male students.

**Table 8: Correlation between Spiritual Intelligence and Academic Achievement**

Variable	N	r-value	Significance
Spiritual Intelligence & Academic Achievement	200	0.42	Significant

**Interpretation:**

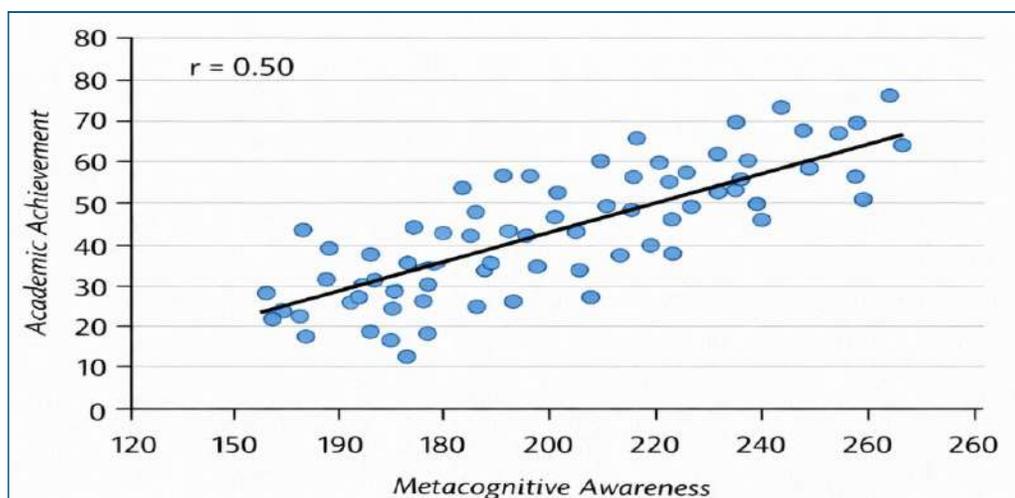
Table 8 shows that the correlation coefficient between spiritual intelligence and academic achievement is 0.42, which indicates a moderate positive correlation. Therefore, the null hypothesis is rejected. This means that spiritual intelligence is positively related to academic achievement.

**Figure 3: Correlation between Spiritual Intelligence and Academic Achievement****Table 9: Correlation between Metacognitive Awareness and Academic Achievement**

Variable	N	r-value	Significance
Metacognitive Awareness & Academic Achievement	200	0.56	Significant

**Interpretation:**

Table 9 shows that the correlation coefficient between metacognitive awareness and academic achievement is 0.56, which indicates a high positive correlation. Therefore, the null hypothesis is rejected. This means that metacognitive awareness is positively related to academic achievement.

**Figure 4: Correlation between Metacognitive Awareness and Academic Achievement**

The analysis of data shows that female B.Ed students have higher spiritual intelligence and metacognitive awareness than male students. The study also reveals that both spiritual intelligence and metacognitive awareness are positively related to academic achievement. However, metacognitive awareness shows a stronger relationship with academic achievement than spiritual intelligence.

### 8. Major Findings

The major findings of the present study are as follows:

- The study found that the mean score of Spiritual Intelligence of B.Ed students is at a moderate level.
  - The study found that the mean score of Metacognitive Awareness of B.Ed students is also at a moderate level.
  - There is a significant difference in Spiritual Intelligence between male and female B.Ed students, and female students were found to have higher spiritual intelligence than male students.
  - There is a significant difference in Metacognitive Awareness between male and female B.Ed students, and female students were found to have higher metacognitive awareness than male students.
  - There is a positive relationship between Spiritual Intelligence and Academic Achievement of B.Ed students.
  - There is a positive relationship between Metacognitive Awareness and Academic Achievement of B.Ed students.
  - The study found that Metacognitive Awareness has a stronger relationship with Academic Achievement compared to Spiritual Intelligence.
  - The study indicates that both Spiritual Intelligence and Metacognitive Awareness are important predictors of Academic Achievement of B.Ed students.
- The study revealed that spiritual intelligence is positively related to academic achievement. Therefore, teacher education programs should include activities such as value education, meditation, yoga, and moral education to develop spiritual intelligence among B.Ed students.
  - The study found that metacognitive awareness has a strong relationship with academic achievement. Therefore, teachers should encourage students to use metacognitive strategies such as planning, self-monitoring, self-evaluation, and reflective thinking to improve their learning.
  - Since female students were found to have higher spiritual intelligence and metacognitive awareness than male students, special training programs and workshops may be conducted to improve these skills among male students.
  - Teacher educators should adopt teaching methods that promote thinking, reflection, self-evaluation, and problem-solving among B.Ed students.
  - Curriculum planners should include topics related to spiritual intelligence, self-awareness, and metacognitive learning strategies in the B.Ed curriculum.
  - Workshops, seminars, and training programs should be organized in teacher training colleges to develop metacognitive skills and spiritual intelligence among future teachers.
  - Since B.Ed students are future teachers, developing spiritual intelligence and metacognitive awareness will help them become more effective teachers and help in the overall development of their future students.

### 10. Conclusion

The present study was conducted to examine the spiritual intelligence and metacognitive awareness of B.Ed students in relation to their academic achievement. The study revealed that B.Ed students possess moderate levels of spiritual intelligence and metacognitive awareness. The study also found that female

### 9. Educational Implications

The findings of the present study have important educational implications for teacher education institutions, teachers, curriculum planners, and students.

students have higher spiritual intelligence and metacognitive awareness than male students.

The results of the study showed that there is a positive relationship between spiritual intelligence and academic achievement and also between metacognitive awareness and academic achievement. It was further found that metacognitive awareness has a stronger relationship with academic achievement compared to spiritual intelligence. This indicates that students who are more aware of their own thinking and learning strategies perform better academically.

The study concludes that both spiritual intelligence and metacognitive awareness play an important role in improving the academic achievement of B.Ed students. Therefore, teacher education programs should give importance not only to academic knowledge but also to the development of spiritual intelligence and metacognitive skills among B.Ed students so that they can become effective teachers in the future.

### 11. Suggestions for Further Research

On the basis of the findings and limitations of the present study, the following suggestions are made for further research:

- The present study was limited to B.Ed students affiliated to Babasaheb Bhimrao Ambedkar Bihar University, Muzaffarpur. Similar studies may be conducted on students of other universities and other teacher education institutions.
- The present study was conducted on a limited sample of 200 B.Ed students. Future studies may be conducted on a larger sample for more reliable results.
- The present study considered only spiritual intelligence and metacognitive awareness in relation to academic achievement. Further studies may include other variables such as emotional intelligence, self-efficacy, personality, learning style, and study habits.
- The present study used the descriptive survey method. Further studies may be conducted using experimental method or longitudinal method.
- The present study was limited to gender and locality variables only. Future research may be conducted by considering other demographic variables such as socio-

economic status, type of institution, and teaching subject.

- Further research may be conducted to develop training programs to improve spiritual intelligence and metacognitive awareness among students and to study their effect on academic achievement.
- Comparative studies may be conducted between B.Ed students and M.Ed students or between teacher education students and general degree students.

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**Cite this article as:** Manoj Kumar and Dr. Ajay Kumar (2025). A Comparative Study of Spiritual Intelligence and Metacognitive Awareness of B.Ed Students in Relation to their Academic Achievement. *International Journal of Emerging Knowledge Studies*. 4(10), pp. 1646–1655. <https://doi.org/10.70333/ijeks-04-12-009>