



SPIRITUAL INTELLIGENCE OF MATHEMATICS TEACHERS AND ITS IMPACT ON THEIR STUDENTS' ACHIEVEMENT

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ABSTRACT

Since the time immemorial there is always a disagreement about the concept of intelligence and its assessment. But for the last few decades in addition to the concept of intelligence and emotional intelligence a new type of intelligence is being debated in various conferences and seminars i.e. spiritual intelligence. A lot of significant researches have been conducted about the importance of spiritual intelligence and its importance in the field of education and about its stakeholders. Teachers and students are not exceptions, as it has been proved through researches that spirituality of teachers plays a key role in making the job of a teacher easy and efficient which in turn leads to the increased students' performance. The present study is an attempt to assess the level of spiritual intelligence of school PGTs and its impact on the academic achievement of the class XII students in mathematics. The present study is a kind of survey which has been conducted on a sample of 30 teachers and 300 students selected from the schools of Directorate of Education, Delhi and it reveals that the level of spiritual intelligence of school PGTs and the academic achievement of Mathematics students are average.

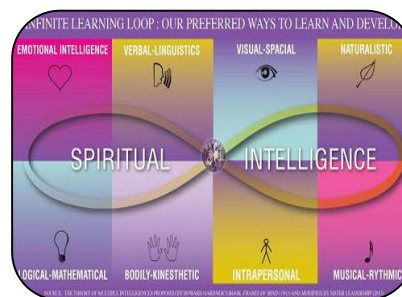
KEYWORDS: Spirituality, Spiritual Intelligence and Students' Achievement.

INTRODUCTION

The main aim of human being is to make such efforts in order to ensure their better human life. For attaining this purpose of prosperity and peaceful life man is making such endeavors which fulfill this well cherished purpose. But in spite of making so many efforts a man always lives in dilemma how he can attain such kind of happily feeling of good quality of life. There are some kind of illusions which make him feel that a considerable amount of wealth can make one's life better on the other hand some individuals think the path of spirituality and serenity brings happiness and peace in his/her life. But now a days the entire world primarily is now getting attracted towards a new kind of learning which completely rely on the presence of spirituality as modern belief is that any person can lead a satisfying and happy life only by maintaining a balance between materialistic and spiritual aspects of life.

CONCEPT OF SPIRITUAL INTELLIGENCE:

Most of the people are of the views that being spiritual mean to divorce all kind of facilities, materialistic prosperity, family life and near/dear ones but the reality very much different from this notion. But the reality is that a person can be spiritual and follow the path of spirituality in spite of leading a normal materialistic life as a father, husband and son. This can be done by a person successfully if he is spiritually intelligent. Some of the definitions of spiritual intelligence is being described as under:



(a).According to **Webster’s** dictionary clearly write about the meaning of spirit as: “the animating or vital principle that gives life to an organism, in contrast to its materialistic aspects/elements i.e. the breath of life.”

(b).As mentioned by **Bhullar, A.(2013); Cindy, W. (2012)** defines spiritual intelligence of an individual as, “the ability to behave with wisdom and compassion, while maintaining inner and outer peace, regardless of the situation”.

Therefore it is quite clear from the above discussion that being spiritual is not just to avoid all essentials of a modern and happy life but a person who is spiritually intelligent, he can successfully live a normal life and along with it he can maintain the concept of spirituality also.

Components of Spiritual Intelligence:

As revealed by **Bhullar, A. (2015)** that **King (2008)** suggests there are four main components spiritual intelligence which should be visible in a spiritually intelligent :**(a) Critical existential thinking:** The ability of an individual to critically deal with the spiritual and metaphysical issues in order to existentialist conclusions; **(b) Personal meaning production:** This is the ability of an individual for arriving at some meaningful conclusions from physical, mental and other experiences; **(c) Transcendental awareness:** This is the one of the most crucial ability of an individual through which he identify various dimension and patterns of the self or of others along with the physical world around them under the conditions of consciousness along with their capacity to recognize their association to other entities of nature; **(d) Conscious state expansion:** This kind of ability is characterized by ones, ability to enter and exit in the higher levels/states of consciousness which is created by one’s own discretion/contemplation.

Spiritual Intelligence and Academic Achievement:

Education is considered as a backbone to the society and blessing to the entire humanity. Whatever progress and prosperity world renowned and famous human cultures/civilization has achieved is just because of the science and education. The good kind of education which is provided holistically it is likely to engage the most of the persons who are engaged in teaching students in order to develop their critical thinking and creativity. Such kind of education can be provided only by the teachers who possess both kind of intelligence i.e. emotional and spiritual along with the greater knowledge of the subject matter. These kind of teachers are likely to use the sources that contain a humanizing and holistic education and which are more spiritual than just being philosophical. It is worth to mention here what poet Yeats said, “At its best, education is a spiritual affair.” On the other hand, as academic achievement of students is one of the most important indicators of students’ progress and each kind of educational assessment is planned to gather evidences about this. As observed by **Farahani, (1994)**, “Society is concerned about the destiny of the individual, his growth and successful development and his status in the society and expects individuals to be developed in various aspects including cognitive dimensions as well as personality, emotional and behavioral dimensions and obtaining abilities and skills.”

Review of the Related Literature:

The researcher has reviewed the following researches that have been conducted in India and outside India.

- ❖ **Aslam, S. (2018)** explored the degree of association between spiritual intelligence and academic achievement of the students of Kashmir Valley studying at secondary level and the study explored the effect of spiritual intelligence on their academic achievement. The findings from the study revealed that there was a significant difference between boys and girls in terms of their spiritual intelligence which he attributed to the fact that the students perceived spiritual intelligence just and didn’t provide due attention in comparison to other subject of the curriculum.

- ❖ **Saranya, R. & Sangeetha, T. (2017)** also conducted a study in order to explore the level of spiritual intelligence of science students at secondary level in relation to their academic achievement. The study was conducted on a sample of 300 secondary school science students who were selected through proportionate stratified technique giving in relation to their certain background variables i.e. their gender, location, type of institute, medium of institute, religion and community etc. The findings from the students revealed that the spiritual intelligence of these students differ in terms of their Gender, medium and religion but on the basis of community, type of institute and location there was no such difference between such students.
- ❖ **Bhullar, A. (2013)** has written an article in which he explored the growth of the concept of spiritual intelligence. In this article he asserted that the ability of spiritual intelligence is helpful for an individual according to his individuality keeping in mind the recent scientific discoveries and the true nature of reality. This research work is an attempt to explore the various definitions of spiritual intelligence along with the components and dimensions of spiritual intelligence that have been given by various psychologists, sociologists and educationists from the time the concept has been conceived to develop.
- ❖ **George, R.M. (2013)** has revealed the association among the spiritual intelligence, teacher effectiveness and academic achievement of elementary level students in relation to their certain background variables. Since the elementary stage of a child starts with the process of inculcation and formation of their specific value system. The study discussed about the importance of spiritual intelligence of elementary teacher along with its influence in increasing the academic achievement and to explore the factors responsible for increasing the teaching efficiency of future school teachers at elementary level.
- ❖ **Singh, M.P. & Sinha, J. (2013)** conducted a study in order to observe the impact of Spiritual Intelligence on the quality of life of the executives serving in government organizations. While conducting this study, a sample was selected through the technique of stratified random sampling and comprised of 303 executives covering adequate representation at junior, middle and senior levels. Three well-developed and validated questionnaires were given to all executives in order to assess their level of IQ, EQ and SQ.

Significance of the Study:

In the modern world which is developing at continuous basis, in every field of study but it is observed that there is always a problem of value crisis which is prevalent each and every profession and the teaching profession is no exception. Since this problem is increasing even in the modern and educated persons also which leads to the conception that the education is not playing its role to the optimum level and in such a situation the role of the teacher becomes more crucial and significant. But a spiritually intelligent person can handle this situation very efficiently and such a teacher can provide guidelines and solve this kind of problem to a significant level in both one's work and private life.

As revealed by the **Bhullar, A. (2013)** rightly said, "spiritual intelligence expands one's capacity to understand others at the deepest level and spiritual well-being of a teachers is the variable that is related to academic achievement." According to the researches which have conducted earlier the people having a high level of spiritual well-being are more likely to perform better in terms of their academic achievement. Mathematics is the subject which requires a well-defined sense of concentration on the part of teachers as well as students in order to achieve in a better way. The present study is an attempt to understand the role of spiritual intelligence of Mathematics teachers in the academic achievement of their students in mathematics.

Title of the Study:

The study has been titled as: **Spiritual Intelligence of Mathematics Teachers and its Impact on their Students' Achievement**

Operational Definitions of the Variables Used in the Study:

- ❖ **Spiritual Intelligence:**According to Amram, (2007): “Spiritual intelligence of a person is his innate ability to access spiritual resources to solve problems and improve one’s daily life.” In the context of the present study the scores obtained by the individual teachers on the Spiritual Intelligence scale developed by **Roquiya Zainuddin and Anjum Ahmed** for the exploration of Level of Spiritual Intelligence.
- ❖ **Students’ Achievement:**Here the term ‘Achievement’ means the scores obtained by them in their class XIth final examination in mathematics. So the scores obtained by them have been considered as their achievement.

Research Questions:

The study is an attempt to answer the following questions.

- ❖ What is the level of Spiritual Intelligence of Mathematics Teachers at Secondary Level?
- ❖ What is the Students’ Level of Achievement in Mathematics at Secondary level?
- ❖ In what manner the Level of Spiritual Intelligence of School Teachers is associated with their Students’ Achievement in Mathematics?

Objectives of the Study:

The present study has been conducted in order to fulfill the following objectives.

- ❖ To study and describe the level of Spiritual Intelligence of school Teachers in relation to their background variables i.e. Experience, Post and Gender.
- ❖ To study and describe the level of Students’ Achievement in Mathematics at Secondary Level.
- ❖ To explore the level of association of Spiritual Intelligence of Mathematics Teachers with the Achievement Level of their students in Mathematics.

Hypotheses of the Study:

The following hypotheses have been formulated and tested using suitable statistical techniques in the pursuit of the study.

- ❖ There is no significant difference between male and female school PGTs in terms of their Level of Spiritual Intelligence.
- ❖ There is no significant difference between highly qualified and low-qualified school PGTs in terms of their Level of Spiritual Intelligence.
- ❖ There is no significant difference between Highly Experienced and Low Experienced teachers in terms of their Level of Spiritual Intelligence.
- ❖ There is no significant difference between Boys and Girls students in terms of their level of Achievement in Mathematics.
- ❖ There is no significant association between the Level of Spiritual Intelligence of Male Mathematics PGTs and their students’ achievement.
- ❖ There is no significant association between the Level of Spiritual Intelligence of Female Mathematics PGTs and their students’ achievement.
- ❖ There is no significant association between the Level of Spiritual Intelligence of highly qualified mathematics PGTs and their students’ achievement.
- ❖ There is no significant association between the Level of Spiritual Intelligence of low qualified mathematics PGTs and their students’ achievement.
- ❖ There is no significant association between the Level of Spiritual Intelligence of Low-experienced Mathematics Teachers and their students’ achievement.
- ❖ There is no significant association between the Level of Spiritual Intelligence of Highly-experienced Mathematics Teachers and their students’ achievement.

Methodology Used:

The present study has utilized descriptive survey method of research in order to explore the Level of Spiritual Intelligence of Mathematics Teachers and Level of Achievement of Students in Mathematics.

- ❖ **Population and Sample:**All the Mathematics teachers working in the schools of Directorate of Education, Delhi comprised the population for the present study. Out of this population of Mathematics Teachers a sample of 30 School Teachers was selected using Multistage Random Sampling Techniques.

(One Zone* 30 Schools* 01 Teacher from each School= Total 30 Teachers)

&

(One Zone* 30 Schools* 10 Students from each School = Total 300Students)

In this way the final sample comprised of 30 Mathematics PGTs and 300 Mathematics Students.

- ❖ **Tools Used for Data Collection:**The following tools have been used for the collection of Data i.e. **(a)**The study has used Spiritual Intelligence scale developed by Roquiya Zainuddin and Anjum Ahmed for the exploration of Level of Spiritual Intelligence of school PGTs. This scale contains 78 items covering six dimensions of Spiritual Intelligence. i.e. The inner self, The Interself, Biostoria, Life Perspectives, Spiritual Actualization and Value Orientation and; **(b)**.The scores obtained by the students in their final class XIth examination in mathematics have been used by the Investigator for the assessment of their Academic Achievement in Mathematics.
- ❖ **Statistical Techniques Used:**The statistical techniques e.g. Mean, S.D., t-test, Chi-square test and Karl Pearson's Coefficient of correlation has been used for the analysis of data collected during the study.
- ❖ **Delimitations of the Study:**The study has been confined to the Post Graduate Mathematics teachers and class XIIth mathematics students belonging to the schools of Directorate of Education, Delhi only. The results so obtained are only applicable to the students and teachers of Directorate of Education, Delhi only.

FINDINGS FROM THE STUDY:

(a). Descriptive Analysis:

- ❖ **Description of Spiritual Intelligence of School Teachers:**The Mean level of spiritual intelligence of 30 school PGTs is 188.72 with a Standard Deviation of 63.56. The minimum value of spiritual intelligence is 103 and the maximum value of spiritual intelligence is 388. The level of spiritual intelligence is as under:

Table A: Showing the Level of Spiritual Intelligence of School PGTs.

Level of SI	Excellent	High	Moderate	Low	Pathetic	Total
No. of PGTs	03	07	12	06	02	30
Percentage	10.00	23.33	40.00	20.00	7.67	100%

- ❖ **Description of Academic Achievement:**The Mean level of Academic Achievement of 300 Mathematics students is 52.27 with a Standard Deviation of 25.28. The minimum value of Academic Achievement is 33 and the maximum value of Academic Achievement is 96. The level of Academic Achievement of class XII mathematics students is as under:

Table B: Showing the Level of Academic Achievement of Class XII Students

Level of AA	V. Good	Good	Average	Low	Very Low	Total
No. of Students	36	62	126	46	30	300
Percentage	12.00	20.67	42.00	15.33	10.00	100%

(b). Differential Analysis:

❖ **Table C: Showing the t-value for Various Group of PGTs.**

Group(s)	Mean Value	S.D.	SE _M	t-value	Significance
Male	181.73	70.56	12.88	0.85 (df: 28)	Not Significant at any Level
Female	195.70	56.03	10.23		
Highly Exp.	204.00	74.08	13.52	1.98 (df: 28)	Significant at 0.05 Level
Low Exp.	173.33	47.41	8.65		
High Qual.	180.77	61.93	11.31	0.97 (df:28)	Not Significant at any Level
Low Qual.	196.67	65.21	11.90		

❖ **Table D: Showing the t-value for Academic Achievement of Various Groups of Students**

Group(s)	Mean Value	S.D.	SE _M	t-value	Significance
Male	55.70	13.34	1.34	1.90 (df: 28)	Not Significant at any Level
Female	50.69	11.83	1.19		

❖ It is clearly evident from the table C that **there is a significant difference between highly-experienced and low-experienced school PGTs in terms of their mean level of spiritual intelligence.** It can also be seen from the table D that **there is no significant difference between male and female class XII students in terms of their academic achievement.**

(c). Using Chi-square for finding the Level of Association among Variables:

- ❖ The Chi-square value for the students of Male Mathematics PGTs with **df: 10 is 19.30** which is significant at 0.05 level. Which leads to the rejection of our null hypothesis i.e. **there is no significant association between the Level of Spiritual Intelligence of Male Mathematics PGTs and their students’ achievement.**
- ❖ The Chi-square value for the students of female Mathematics PGTs with **df: 10 is 16.32** which is not significant even at 0.05 level. Which leads to the retaining of our null hypothesis i.e. **there is no significant association between the Level of Spiritual Intelligence of Female Mathematics PGTs and their students’ achievement.**
- ❖ The Chi-square value for the students of highly qualified mathematics PGTs with **df: 10 is 21.56** which is significant at 0.05 level. Which leads to the rejection of our null hypothesis i.e. **there is no significant association between the Level of Spiritual Intelligence of highly qualified mathematics PGTs and their students’ achievement.**
- ❖ The Chi-square value for the students of low qualified mathematics PGTs with **df: 10 is 16.30** which is not significant even at 0.05 level. Which leads to the retaining of our null hypothesis i.e. **there is no significant association between the Level of Spiritual Intelligence of low qualified mathematics PGTs and their students’ achievement.**
- ❖ The Chi-square value for the students of low-experienced mathematics PGTs with **df: 10 is 15.39** which is not significant even at 0.05 level. Which leads to the retaining of our null hypothesis i.e. **there is no significant association between the Level of Spiritual Intelligence of Low-experienced mathematics PGTs and their students’ achievement.**
- ❖ The Chi-square value for the students of highly experienced mathematics PGTs with **df: 10 is 29.16** which is highly significant at 0.01 level. Which leads to the rejection of our null hypothesis i.e. **there is no**

significant association between the Level of Spiritual Intelligence of Highly-experienced mathematics PGTs and their students' achievement.

CONCLUSION:

Based on the findings from the present study it has been revealed that there is a significant difference between highly experienced and low-experienced school teachers but there is no such difference exists in case of gender and qualifications of school PGTs. Further it was found that there is no significant difference between the academic achievements of mathematics students in terms of their gender. When chi-square was used for finding the level of association between spiritual intelligence of mathematics PGTs and their students' achievement it was found to be significant. The above findings are an original contribution to the existing knowledge on the part of the researcher which leads to the conception that the mathematics teachers who are having high level of spiritual intelligence they are more likely to motivate their students in an effective manner for their enhanced achievement in mathematics. The present study is expected to enable mathematics teachers, students and administrators to explore the ways through which the level of spiritual intelligence of school mathematics teachers and students can be enhanced which in turn is likely to increase the students' achievement in mathematics.

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