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CONTENTS

EDITORIAL

"It is the supreme art of the teacher to awaken joy in creative expression and knowledge."-

Albert Einstein.

Education plays an indispensable role in the world by creating new knowledge, transmitting it to students and fostering research and innovation. Learning and teaching should not stand on opposite banks and just watch the river flow by; instead, they should embark together on a journey down the water. Through an active, reciprocal exchange, teaching can strengthen learning how to learn. "Loris Malaguzzi (1920-1994).Teacher education is an essential element for the improvement of education by producing highly qualified teachers. Quality teaching in education matters for student learning outcomes. Fostering quality teaching needs education institutions to ensure that the education they offer meets the expectations of students and the requirements of employers, both today andfor thefuture (Henard and Roseveare 2012). In the process of becoming and being a teacher, doing research in teaching not only promote reflection about personal performance in the classroom, but also seem to stimulate a valued process of se/f- assessment, in challenging future teachers to identify their personal strengths and weaknesses. Teacher education should equip teachers with self-evaluation and problem-solving skills that are based on research- oriented education. In Teacher preparation institutions, Research in education is necessary in order to provide a basis for transfer of knowledge and practice for new role of producing knowledge in the knowledge era.

Mrs. P. Nalini and Dr. Doreen Gnanam made a study on the influence of self-efficacy on achievement motivation among adolescents and found that there exists significant difference in self-efficacy and achievement motivation based on gender, medium of instruction and self-efficacy is positively correlated to achievement motivation. Mr. A. Vaiyadurai investigated the relationship between academic self-concept and student's achievement in the science subject among high school students and found a positive relationship between science achievement and academic self-concept. P. Ve/ Murugan and M. Aiswarya attempted to study the relationship between thinking styles and academic achievement of eleventh standard students and found that no significant difference existed between thinking styles and academic achievement but found significant relationship between synthetic and realistic thinking styles and academic achievement. An experimental study on enhancement of emotional intelligence

and spiritual intelligence among B.Ed student trainees was made by Mr. G. Thanigaivel and Or. K. Vanitha and they claim that enhancement programmes were effective in terms of raising the emotional and spiritual intelligence level of student trainees. Dr. Vijula Suresh in her articles "Teaching approach in Physics" has identified some misconceptions in Physics and has suggested a few remedial measures. V. Arockia Amuthan made an attempt to study the economic impact of educational policies of marginalised groups in India and recommends action to ensure the quality of education for girls through new skill based training in all regions of the country particularly in rural areas. Mrs. N. Krishnapriya attempted to study about teacher efficacy and burnout among school teachers in Tami/Nadu. She found that higher the personal efficacy, higher their personal "accomplishment" and lower their emotional "exhaustion" and depersonalization.

To all the contributors to this issue, we express our sincere gratitude. We welcome Research articles on Philosophy of Education, learning theory and technology and the recent trends in teacher education. Quality articles based on first hand experience, reflection and reading will be considered for publication.

Dr. A. Alma Juliet Pamela
Associate Editor.

Research Article

Influence of Self-efficacy on Achievement Motivation among Adolescents

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ABSTRACT

The study aims at finding out the Self-Efficacy and Achievement Motivation among higher secondary school students based on Gender and Medium of instruction. The sample taken for the study is about 1200 higher secondary school students of Chennai and Ponneri Educational Districts who had opted Biology as one of the subject of study. The Achievement Motivation Inventory was developed by Muthee J.M & Immanuel Thomas (2009) and General Self-Efficacy Scale developed in Germany by Mathias Jerusalem and Ralf Schwarzer (1979), was used and created as a survey instrument by Big Brothers Big Sisters (BBBS) of greater Rochester was used in the study. The major findings of the study indicate that there is a significant difference in the Self-Efficacy and Achievement Motivation based on Gender and Medium of Instruction among higher secondary school students and also Girls exhibit higher Self-Efficacy and Achievement Motivation than that of Boys. There also exists significant relationship between Self-Efficacy and Achievement Motivation among adolescents.

Keywords: Self-efficacy, Achievement motivation, Adolescents, Academic performance, Educational psychology

INTRODUCTION

Adolescents generally avoid tasks where self-efficacy is low, but undertake tasks where self- efficacy is high. Self-efficacy is significantly beyond actual ability which leads to overestimation of the ability to complete tasks. On the other hand, when self-efficacy is found to be lower than ability it discourages growth and skill development. High self-efficacy can affect motivation in both positive and negative ways. A similar finding has been revealed by Prat-Sala, Merce; Redford, Paul (2010) who found that students classified as high in Self-

Efficacy (reading and writing) were more likely to adopt lo Jeep or strategic approach to studying, while students classified as low in Self-Efficacy were more likely to adopt a surface approach. In general, adolescents with high self-efficacy are more likely to make efforts to complete a task, and to persist longer in those efforts, than those with low self-efficacy. The stronger the self-efficacy or mastery expectations, the more active the efforts would be for adolescents'. This is supported by Chen, Jason A.; Usher, Ellen L(2013) who found that mastery experiences are a powerful source of self-efficacy among middle and high school students. However, those with low self-efficacy sometimes experience incentive to learn more about an unfamiliar subject, where someone with a high self-efficacy may not prepare so well for a task.

Research on Australian Science students showed that those with high self-efficacy showed better academic performance than those with low self-efficacy. Confi<lenl individuals who typically took control over their own learning experiences, were more likely to participate in class, and preferred hands-on learning experiences. Those with low self-efficacy typically shied away from academic interactions.

Bandura showed that difference in self-efficacy correlates to fundamentally different world views. People with high self-efficacy generally believe that they are in control of their own lives, that their own actions and decisions shape their lives, while people with low self-efficacy may see their lives as outside their control.

RELATED WORK:

Britner, Shari L (2008) found that in life science classes, girls earned higher grades but did not report stronger self-efficacy and report higher science anxiety, they also found that girls, self-efficacy was also the strongest predictor of science grade across fields. Torchia, Sean P (2012) found that students' self-efficacy and intrinsic motivation are influenced positively. Bryan, Robert R.; Glynn, Shawn M.; Kittleson, Julie M. (2011) found that consistent with social cognitive theory, self-efficacy was the motivation factor most related to achievement. Hacieminoglu, Esme; Yilmaz-Tuzun, Ozgul; Ertepinar, Hamide (2009) found that students previous science grades were positively correlated with achievement, meaningful learning, and self-efficacy and negatively correlated with rote learning and performance orientations

OBJECTIVESOFTHESTUDY

1. To find out whether a significant difference exists in Self-Efficacy and Achievement Motivation of Higher Secondary School Students based on Gender.
2. To find out whether a significant difference exists in Self- Efficacy and Achievement Motivation of Higher Secondary School Students based on Medium oflnstruction.
3. To find out whether Self-Efficacy of Higher Secondary students is significantly related to Achievement Motivation of Higher Secondary School Students.

METHODOLOGY

Keeping in view the nature and purpose of the study, the investigator adopted a descriptive survey method to carry out the study. This method deals with what exists at present and it describes and interprets the current and prevailing situation and conditions.

SAMPLE FOR THE STUDY

The investigator selected students of XI standard Biology subject group from three different types of schools- Government, Government Aided and Private. The sample consists of 1200 students. Simple Random Sampling technique was used for the study.

HYPOTHESESOFTHESTUDY

1. There is no significant difference between boys and girls in their Self-Efficacy and Achievement motivation among Higher Secondary School Students.
2. There is no significant difference between Self-Efficacy and Achievement Motivation among Higher Secondary School Students based on Medium of Instruction.
3. Self-Efficacy is not significantly related to the Achievement Motivation among Higher Secondary School Students.

RESEARCH TOOLS FOR THE STUDY

The following tools have been used by the researcher for the present study:

VARIABLES AND RESEARCH DESIGN

a. General Self-Efficacy Scale developed in Germany by Mathias Jerusalem and Ralf Schwarzer (1979), was used and created as a survey instrument by Big Brothers Big Sisters (BBBS) of greater Rochester.

b. Achievement Motivation Inventory by Muthee J. Mand Immanuel Thomas (2009)

ANALYSIS AND INTERPRETATION OF DATA:

TABLE-1: Self-Efficacy and Achievement Motivation among Higher Secondary School Students based on Gender.

Variables	Gender	N	Mean	Standard Deviation	Std Error	't'	p	L.S
Self-Efficacy	Boys	340	63.15	8.862	0.481	2.010	0.040	0.05
	Girls	860	64.34	9.381	0.3220			
Achievement Motivation	Boys	340	101.29	11.863	0.643	2.190	0.029	0.05
	Girls	860	102.98	12.124	0.413			

From the mean scores it could be seen that the girls (M= 64.34) have higher Self-Efficacy than that of boys (M=63.15). Also the 't' value (2.010) is more than the table value(l.96) which indicates that there is significant difference between the Self-Efficacy and Gender. Hence the hypothesis that there is no significant difference between boys and girls in their Self-Efficacy is rejected and the alternative hypothesis is accepted.

The table also shows that the mean score for Achievement Mo6vation is found to be higher for girls (M=l 02.98) than that of boys (M=l 01.29). Also the 't' value (2.190) is greater than the table value (1.96) at 0.05 level which shows that there is significant difference between Achievement Motivation and Gender. Hence the hypothesis that there is no significant difference between boys and girls in their Achievement Motivation is rejected and the alternative hypothesis is accepted.

TABLE-2: Self-Efficacy and Achievement Motivation among Higher Seconda11' School Students based on Medium of Instruction.

Variables	Medium of Instruction	N	Mean	Standard Deviation	Std Error	't'	p	L.S
	English	670	64.69	8.272	0.320			

Self-Efficacy	Tamil	530	63.14	10.296	0.447	2.890	0.004	0.01
Achievement Motivation	English	670	105.38	11.863	0.463	9.668	0.000	0.01
	Tamil	530	98.85	11.166	0.485			

From the mean scores it could be seen that the English Medium Students (M= 64.69) have higher Self-Efficacy than that of Tamil Medium Students (M=63.14). Also the 't' value (2.890) is more than the table value(2.58) at 0.01 level which indicates that there is significant difference between the Self-Efficacy and Medium of Instruction. Hence the hypothesis that there is no significant difference between the Self-Efficacy among Higher Secondary School Students based on Medium oflnstruction is rejected and the alternative hypothesis is accepted. The table also shows that mean score for the Achievement Motivation is seen to be higher for English Medium Students (M=l 05.38) than that of Tamil Medium Students (M=98.85). Also the 't' value (9.668) is greater than the table value (2.58) at 0.01 leve] which shows that there is significant difference between Achievement Motivation and Medium oflnstrnction. Hence the hypothesis that there is no significant difference between the Achievement Motivation of Higher Secondary students based on Medium oflnstruction is rejected and the alternative hypothesis is accepted.

TABLE-3: Relationship between Self-Efficacy and Achievement Motivation among Higher Secondary School Students.

Variable	N	Correlation	Level of Significance
Self - Efficacy Vs Achievement Motivation	1200	0.198	0.01

The above table shows that the Coefficient of Correlation for Self-Efficacy and Achievement Motivation for Higher Secondary School Students is 0.198 which is significant at 0.01 level.

RESULTS AND DISCUSSION:

The present study reveals that girls have higher Self-Efficacy than boys which is supported by the study of Sawtelle, Vashti (2011) who found that women rely on different sources of Self-Efficacy than men. It is also analyzed in the present study that girls have higher Achievement Motivation than boys, which is supported by the study of Fironzeh Sepehrian

Azar-(2013) found that there was significant difference among boys and girls in tem1s of the level of achievement motivation, academic achievement and academic self-efficacy.The present study shows that there is significant difference in Self-Efficacy and Achievement Motivation among the higher secondary school students with reference to their medium of instruction which show that students who have been taught in English as the medium of instruction have high Self-Efficacy which in-turn boosts up their Achievement Motivation to achieve better in their Academics. Also Self-Efficacy is positively correlated to Achievement Motivation which shows that both are inter-related for the performance of the students as a whole. Clemons, Trudy L (2008)found that student's self-perception had strong influences on achievement motivation and study and organizational skills.

EDUCATIONAL IMPLICATIONS:

Adolescents high in need-Achievement are characterized by a tendency to seek challenges and a high degree of independence. Their most satisfying reward is the recognition of their achievements.

Considering the findings of the study the investigator attempts to suggest the following educational implications.

- Since the girls have higher Self-Efficacy than that of boys there can be planned programmes created by the academicians which provide opportunities for the adolescent boys to develop their level of self-efficacy which in-turn motivates them to achieve in their performances.
- Girls have higher Achievement Motivation than boys which can be enhanced by creating a positive environment for the adolescents in the school and encourage them to participate in all the activities which are of interest to them.
- English as the Medium of instruction has been proved to be a positive factor to develop Self-Efficacy and Achievement Motivation among adolescents hence the teachers should play a positive role in motivating the students to develop their level of performance irrespective of the language taught or written as it only plays the role of communication and not a negative image on their personality.
- Rewards and correction, cooperation and competition, and guidance and special help provided by the teachers, educators, administrators and parents play a major role in building the level of perfom1ance among students as a whole.

CONCLUSION

Higher Secondary Schools of today have been designed to motivate students especially the adolescents to achieve high in academics. Achievement Motivation dominates all the instructional and learning procedures involved in schools. Other related factors for higher academic achievement can be attributed to Self-Efficacy. Adolescents of today need to exercise Self-Efficacy to be positively correlated to Academic Achievement.

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Research Article

Relationship between Academic Self-concept, Some Selected Variables and Science Course Achievement

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ABSTRACT

The aim of this study was to investigate the relationship between students' Academic Self-Concepts and certain demographic variables (gender, location of school, type of family, medium of study and type of school) and the relationship between academic self-concepts and students' achievement in the course of Science. The study was carried out with high school students (N=235). In the study, the data were collected through the Academic Self-Concept scale (the reliability coefficient of the scale was calculated by the researchers as 0.89), achievement scores in the course of science and a questionnaire for the demographic information's of the participants. Descriptive statistics, t-test, C01Telation analysis, were used to analyze the data. The analysis of the data revealed that the no significant relationships and differences were found in students' academic self-concepts with respect to gender, school location, type of the family and type of school. Ln the study, positive relationships were found but low between students' achievement in the course of science and the Academic Self-Concept.

Keywords: self-concept, science achievement, variables, adolescents, education

INTRODUCTION

Self-concept as a construct has had a long account within psychology and education because it provides an estimate to determine the effects of academic and social execution on the emotional well-being of the person (Vaughn et al., 2000). Self-concept is generally viewed as a valued educational outcome. The construct of self-concept is grounded primarily in self-worth theory (Covington, 1992; Covington, 1998; Covington, 2000; Covington & Dray, 2002; Eccles & Wigfield, 2002). Briefly, self-worth theory suggests that all individuals have a

motivational "tendency to establish and maintain a positive self-image, or sense of self-worth" (Eccles & Wigfield, 2002).

Academic self-concept refers to the individual attitude about their academic capability or skills. Some research suggests that it begins developing from ages 3 to 5 due to power from parents and early teachers. By age 10 or 11, children assess their academic capabilities by comparing themselves to their peers.

Some researchers suggest that, to lift academic self-concept, parents and teachers need to provide children with specific response that focuses on their particular skills or abilities. Others also state that learning opportunities should be conducted in groups (both mixed-ability and like-ability) that downplay social association, as too much of either type of grouping can have adverse effects on children's academic self-concept and the way they view themselves in relation to their peers.

Academic self-concept can be explained as "specific attitudes, feelings, and perceptions about one's intellectual or academic skills, representing a person's self beliefs and self-feelings regarding the academic setting" (Lent et al., p. 308). Cokley (2000) defined academic self-concept as a student's view of his or her academic talent when compared with other students.

PURPOSE OF THE STUDY:

The purpose of this explore was to scan high school students who are from an urban and rural atmosphere to determine the correlation between the academic achievement and their academic self-concept. The goal of this study was to promote attentiveness about underrepresented student populations and to assist teachers in gaining imminent into the experiences of these students in order to provide effective program writing.

OBJECTIVES OF THE STUDY

Objectives are the developments and other expected changes that the investigator aims at studying the weakness of the particular field. In the present study the objectives of the investigator, through the study, mentioned below.

- √ To study if there is any significant difference of Academic Self- Concept with respect to their

a) Gender,
b) School location,
c) Medium of instruction
d) Types of family

e) School Management

✓ To study if there is any relationship between Academic Self-Concept and Science Academic Attainment of high school students.

RESEARCH QUESTIONS

Questions guiding this research study include:

✓ Is there any significant difference exists in Academic Self-Concept among high school students with respect to their gender, school location, medium of instruction and school management type?

✓ What are the gender differences in the relationship between academic self- concept and academic achievement among these students?

HYPOTHESES OF THE STUDY

The Hypotheses of the study are stated as follows.

1. There is no significant difference between male and female students with respect to their academic self-concept
2. There is no significant difference between rural and urban school students with respect to their academic self-concept
3. There is no significant difference between Tamil medium and English medium students with respect to their academic self-concept.
4. There is no significant difference between Joint family and nuclear family students with respect to their academic self-concept
5. There is no significant difference in Academic Self- Concept among Govermnent, Government Aided and Private School Students
6. There is no. relationship between Academic Self-Concept and Science Academic Achievement of high school students

METHODOLOGY

A total of 235 students attending three types of schools participated in the present study. Among the participants, 111 of them were from a rural high school, 124from urban high school. Of all the participating students, 46% of them (n=108) were male, and 54 % of them (n=127) were female. In the study, The Academic Self-Concept Questionnaire (ASCQ) was developed by Liu & Wang (2005) with four point scale. The original ASCQ consisted of two 10-item sub scales: students' academic confidence (10 items) and students' academic effort (10 items). The academic confidence (AC) sub scale assessed students' feelings and perceptions

about their academic competence. The academic effort (AE) sub scale assessed students' commitment to and involvement and interest in schoolwork. Moreover, in order to determine the students' achievement in the course of science, the second term science course achievement records of the students attending four different types of high schools were used. In addition, in order to find out the demographic background of the students, a five item questionnaire for demographic background was applied. The collected data were analyzed statistically and interpreted. In order to identify the relationship of Academic Self-Concept and Academic achievement of the students, the data were analyzed descriptively and differentially.

ANALYSIS AND INTERPRETATION

Table 01: Academic Self- Concept of demographic variables

S.No	Demographic Variables	Sub Groups	N	Mean	SD	't'/'F' Value	'p' Value	Result at 0.05 level of Significance
1	Gender	Male	108	57.22	8.27	0.64	0.521	Not Significant
		Female	127	56.53	8.24			
2	School Location	Rural	111	56.81	7.59	0.06	0.949	Not Significant
		Urban	124	56.88	8.82			
3)	Medium	Tamil	157	57.20	7.60	0.94	0.347	Not Significant
		English	78	56.13	9.43			
4	Family Type	Joint Family	88	58.20	8.03	1.96	0.050	Not Significant
		Nuclear Family	147	56.03	8.30			
5	School Management	Government	58	56.22	7.02	1.09	0.336	Not Significant
		Government Aided	99	57.78	7.90			
		Private	78	56.13	9.43			

The table 1 showed the mean score differences in the Academic self-Concept among the students based on their gender, School Location, Medium, Family type and school Management. The obtained 't' values based on gender is (0.64), location of school is (0.06), medium of study is (0.94), Family type is (1.96) and school management type is (1.09) are lesser than the table value at the 0.05 level of significance. Therefore, it is concluded that there is no significant difference existed in Academic Self Concept based on gender, school location,

medium of study, family type and school management. The above stated null hypotheses (1to5) were accepted.

Table 2: Relation between Academic Self- Concept and Academic Achievement of Science

Variables	'r' Value	Result
Academic Self - Concept and Academic Achievement	0.0201	Significant at 0.05 level of Significance

Table 2 reveals that Pearson Coefficient of correlation between Academic Self-Concept and Science Academic achievement of high school students of Erode District is 0.0.0201. It which is positive and low but considerable. It indicates the academic self concept is influenced the academic achievement. Therefore, it is concluded that there is a significant positive relationship existed in Academic Self Concept and academic achievement. The above stated null hypothesis number 6 were rejected.

DISCUSSION AND CONCLUSION

The main objective of this study was to explore relationship between academic self-concept and academic achievement. Results indicated that the positive relationship existed by the students who participated in this study. This result indicates that students may be successful in understanding their emotions, strong and weak characteristics. This situation requires further scrutiny since it draws attention to the importance of academic self-concept. Hence, teachers should try to develop their students' positive academic self-concept so that this will help improving their academic performance. The present study also looked at the results indicated no significant difference occurs in their gender, school location, medium of study, family type and school managements with respect to their Academic Self-Concept. It indicated the above mentioned demographic variables are not influenced with Academic Self-Concept of high school student’s science achievement.

EDUCATIONAL IMPLICATION

The following suggestions could be put forward depending on the findings obtained in the study:

As it is important to focus on students' achievement and capabilities in high school education, it should also be equally important to determine and recognize the features of their academic self-concepts.

For healthy training of individuals, when family factors are taken into consideration, it would be beneficial to develop school-family relationships and to raise families consciousness of students affective features such as academic self-concept.

Considering the relationship between achievement in the course of science and academic self -concept, teachers of science in high school education could design their lesson plans in a way to improve students' academic self-concept.

It would be beneficial to investigate the influence of such factors as the educational background of parents, financial state of the family, the technologies resources available at home and the number of siblings in the family on academic achievement and academic self concept in other fields and in different educational grades.

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Research Article

Thinking Styles and Academic Achievement of XI Standard Students

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ABSTRACT

The main objective of the study is to find out the relationship between thinking styles and academic achievement of XI standard students. Thinking Styles Inventory constructed by Sternberg (2007) was used to collect the relevant data. Marks obtained in quarterly examinations of XI standard students have been taken for estimating their academic achievement. The sample consists of 339 XI standard students of whom 177 are male and 162 are female. The data are analysed by 't' test and Karl Pearson's product moment correlation. The results indicate that there is no significant relationship between idealistic, pragmatic and analytic thinking styles and academic achievement of XI standard students. There is significant relationship between synthetic and realistic thinking styles and academic achievement of XI standard students.

Keywords: thinking styles, academic achievement, higher secondary students, cognition, learning styles

INTRODUCTION

Thinking is the cognitive process. It refers to the process and thought and refers the mind content during the continuity of that process. According to Ross (1951), 'Thinking is mental activity in its cognitive aspect or mental activity with regard to psychological aspects'. The term 'thinking' is an activity which consists essentially of a connected flow of ideas which are directed towards 8ome end or purpose. It includes the styles namely synthetic, idealistic, pragmatic, analytic and realistic.

Education is the process of human development. Intellectual or mental development is possible by improving the power of thinking. For the improvement of thinking process, the

teacher should try to understand his students and the devices for better thinking. Teaching and instructions are planned and organised for improving the power of thinking. Objectives of teaching learning and instruction, curriculum development, preparing text books and instructional material, methods and techniques of teaching, models of teaching, evaluation and diagnosis, and remedial teaching and instruction are the main devices which are being used for improving the power of thinking. Thinking process starts \vith sensation which is organized in cognition to have the perception. It is always directed towards achieving some purpose in genuine.

SIGNIFICANCE OF THE STUDY

Thinking style is a term used in cognitive psychology to describe the way individuals think, perceive and remember information. It differs from thinking ability or level, the latter being measured by aptitude tests. It is a key concept in the areas of education and management. If a pupil has thinking (cognitive) style that is similar to that of his or her teacher, the changes that the pupil will have a more positive learning experience is improved. The term achievement refers to the knowledge attained or skills developed in the school subjects usually designed by test scores or by marks assigned by students. Achievement of the students depends upon so many factors. Thinking is one of the factors. When the factor is in positive way, it will lead the students towards better achievement. Therefore the investigator wants to know the relationship between thinking styles and academic achievement of XI standard students.

OBJECTIVES

1. To find out whether there is any significant difference between male and female XI standard students in their synthetic, idealistic, pragmatic, analytic and realistic thinking styles.
2. To find out whether there is any significant difference between rural and urban school XI standard students in their synthetic, idealistic, pragmatic, analytic and realistic thinking styles.
3. To find out whether there is any significant difference between XI standard students from nuclear family and joint family in their synthetic, idealistic, pragmatic, analytic and realistic thinking styles.
4. To find out whether there is any significant difference between arts group and science group XI standard students in their synthetic, idealistic, pragmatic, analytic and realistic thinking styles.

5. To find out whether there is any significant difference between male and female XI standard students in their academic achievement.
6. To find out whether there is any significant difference between rural and urban school XI standard students in their academic achievement.
7. To find out whether there is any significant difference between XI standard students rom nuclear family and joint family in their academic achievement.
8. To find out whether there is any significant difference between arts group and science group XJ standard students in their academic achievement.
9. To find out whether there is any significant relationship between thinking styles and academic achievement of XI standard students.

NULL HYPOTHESES

1. There is no significant difference between male and female XI standard students in their synthetic, idealistic, pragmatic, analytic and realistic 1hinking styles.
2. There is no significant difference between rural and urban school XI standard students in their synthetic, idealistic, pragmatic, analytic and realistic thinking styles.
3. There is no significant difference between XI standard students from nuclear family and joint family in their synthetic, idealistic, pragmatic, analytic and realistic thinking styles.
4. There is no significant difference between arts group and science group XI standard students in their synthetic, idealistic, pragmatic, analytic and realistic thinking styles.
5. There is no significant difference between male and female XI standard students in their academic achievement.
6. There is no significant difference between rural and urban school XI standard students in their academic achievement.
7. There is no significant difference between XI standard students from nuclear family and joint family in their academic achievement.
8. There is no significant difference between arts group and science group XI standard students in their academic achievement.
9. There is no significant relationship between thinking styles and academic achievement of XI standard students.

METHODOLOGY

The investigator adopted survey method. The population for the present study is XI standard students studying in Thuckalay Educational District. The investigator has used stratified random sampling technique for collecting the data. The stratification has been done on the basis of sex, location of school, type of family and group of study. The sample consists of 339 XI standard students from 12 schools. Among them 177 are male and 162 are female students. Thinking styles inventory constructed by Sternberg (2007) was used for collecting the data. Marks obtained in quarterly examinations of XI standard students have been taken for estimating their academic achievement. 't' test and Karl Pearson's product moment correlation were used to analyse the data in this study.

ANALYSIS OF DATA

Table 1

Difference Between Male and Female XI Standard Students in Their Thinking Styles

Dimensions of Thinking Styles	Male (N=l 77)		Female (N=l62)		Calculated 't 'value	Remarks at 5 % level
	Mean	S.D	Mean	S.D		
Synthetic	4.43	1.612	4.48	1.597	0.299	NS
Idealistic	3.49	1.197	3.64	1.331	1.091	NS
Pragmatic	3.71	l.419	4.02	1.550	1.894	NS
Analytic	2.87	l.378	2.68	1.331	1.298	NS
Realistic	3.49	1.771	3.19	1.665	1.641	NS

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that there is no significant difference between male and female XI standard students in their synthetic, idealistic, pragmatic, analytic and realistic thinking styles.

Table 2

Difference Between Rura] and Urban School XI Standard Students in Their Thinking Styles

Dimensions of Thinking Styles	Rural (N=l58)		Urban (N=181)		Calculated 't 'value	Remarks at 5 % level
	Mean	S.D	Mean	S.D		
Synthetic	4.04	1.480	4.82	1.621	4.629	S
Idealistic	3.50	1.353	3.62	1.180	0.855	NS

Pragmatic	3.61	1.522	4.08	1.428	2.918	S
Analytic	3.18	1.281	2.43	1.325	5.348	S
Realistic	3.66	1.603	3.07	1.785	3.252	S

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that there is no significant difference between rural and urban school XI standard students in their idealistic thinking style, but there is significant difference between rural and urban school XI standard students in their synthetic, pragmatic, analytic and realistic thinking styles. While comparing the mean scores of rural and urban school XI standard students, the urban school XI standard students are better in their synthetic and pragmatic thinking styles. While comparing the mean scores of rural and urban school XI standard students, the rural school XI standard students are better in their analytic and realistic thinking styles.

Table 3

Difference Between l XI Standard Students From Nuclear Family and Joint Family in Their Thinking Styles

Dimensions of Thinking Styles	Nuc1ear Fami1y (N=158)		Joint Family (N=181)		Calcu]ated 't 'value	Remarks at 5 %]evel
	Mean	S.D	Mean	S.D		
Synthetic	4.46	1.632	4.43	*1* .448	0.109	NS
Idealistic	3.46	1.207	4.13	1.415	3.256	S
Pragmatic	3.87	1.439	3.79	1.747	0.307	NS
Analytic	2.79	1.326	2.70	1.526	0.427	NS
Realistic	3.42	1.733	2.94	1.646	1.919	NS

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that there is no significant difference between XI standard students from nuclear family and joint family in their synthetic, pragmatic, analytic and realistic thinking styles, but there is significant difference between XI standard students from nuclear family and joint family in their idealistic thinking style. While comparing the mean scores of XI standard students from nuclear family and joint family, the XI standard students from joint family are better in their idealistic thinking style.

Table 4

Difference Between Arts Group and Science Group School XI Standard Students in Their Thinking Styles

Dimensions of Thinking Styles	Arts (N=l23)		Science (N=216)		Calculated 't 'value	Remarks at 5 % level
	Mean	S.D	Mean	S.D		
Synthetic	4.26	1.448	4.56	1.678	1.757	NS
Idealistic	3.76	1.363	3.45	1.192	2.053	S
Pragmatic	3.83	1.513	3.88	1.478	0.270	NS
Analytic	2.59	1.317	2.88	1.371	1.925	NS
Realistic	3.56	1.820	3.22	1.661	1.700	NS

(At 5% level of significance, the table value of 't' is J.96)

It is inferred from the above table that there is no significant difference between arts group and science group XI standard students in their synthetic, pragmatic, analytic and realistic thinking styles, but there is significant difference between arts group and science group XI standard students in their idealistic thinking style. While comparing the mean scores of arts group and science group XI standard students, the aits group XI standard students are better in their idealistic thinking style.

Table 5

Difference Between Male and Female XI Standard Students in Their Thinking Styles

Dimensions of Thinking Styles	Male (N=l 77)		Female (N=l 62)		Calculated 't 'value	Remarks at 5 % level
	Mean	S.D	Mean	S.D		
Academic Achievement	658.20	209.131	610.54	212.535	2.078	S

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that there is significant difference between male and female XI standard students in their academic achievement. While comparing the mean scores of male and female XI standard students, the male XI standard students are better in their academic achievement.

Table 6

Difference Between Rural and Urban School XI Standard Students in Their Thinking Styles

Dimensions of Thinking Styles	Rural (N=158)		Urbane (N=181)		Calculated 't 'value	Remarks at 5 % level
	Mean	S.D	Mean	S.D		
Academic Achievement	634.08	198.273	636.60	223.479	0.110	NS

It is inferred from the above table that there is no significant difference between rural and urban school XI standard students in their academic achievement.

Table 7

Difference Between I XI Standard Students From Nuclear Family and Joint Family in Their Thinking Styles

Dimensions of Thinking Styles	Nuclear Family (N=286)		Joint Family (N=53)		Calculated 't 'value	Remarks at 5 % level
	Mean	S.D	Mean	S.D		
Academic achievement	629.77	212.209	665.94	208.907	1.155	NS

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that there is no significant difference between XI standard students from nuclearfamily and joint family in their academic achievement.

Table 8

Difference Between l XI Standard Students From Nuclear Family and Joint Family in Their Thinking Styles

Dimensions of Thinking Styles	Arts (N=l23)		Science (N=216)		Calculated 't 'value	Remarks at 5 % level
	Mean	S.D	Mean	S.D		
Academic achievement	626.14	200.237	640.71	218.388	0.623	NS

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that there is no significant difference between arts group and science group XI standard students in their academic achievement.

Table 9

Relationship Between Thinking Styles and Academic Achievement of XI Standard Students

Dimensions of Thinking Styles	Calculated 'y' value	Remarks at 5% level
Synthetic	0.127	S
Idealistic	0.039	NS
Pragmatic	0.021	NS
Analytic	0.029	NS
Realistic	0.144	S

(At 5% level of significance for 337 df the table value of 'y' is 0.098)

It is inferred from the above table that there is no significant relationship between idealistic, pragmatic and analytic thinking styles and academic achievement of XI standard students, but there is significant relationship between synthetic and realistic thinking styles and academic achievement of XI standard students.

FINDINGS

- There is no significant difference between male and female XI standard students in their synthetic, idealistic, pragmatic, analytic and realistic thinking styles.
- There is no significant difference between rural and urban school XI standard students in their idealistic thinking style, but there is significant difference between rural and urban school XI standard students in their synthetic, pragmatic, analytic and realistic thinking styles. While comparing the mean scores of rural and urban school XI standard students, the urban school XI standard students are better in their synthetic and pragmatic thinking styles. While comparing the mean scores of rural and urban school XI standard students, the rural school XI standard students are better in their analytic and realistic thinking styles.
- There is no significant difference between XI standard students from nuclear family and joint family in their synthetic, pragmatic, analytic and realistic thinking styles, but

there is significant difference between XI standard students from nuclear family and joint family in their idealistic thinking style. While comparing the mean scores of XI standard students from nuclear family and joint family, the XI standard students from joint family are better in their idealistic thinking style.

- There is no significant difference between ar1s group and science group XI standard students in their synthetic, pragmatic, analytic and realistic thinking styles, but there is significant difference between arts group and science group XI standard students in their idealistic thinking style. While comparing the mean scores of arts group and science group XI standard students, the arts group XI standard students are better in their idealistic thinking style.
- There is significant difference between male and female XI standard students in their academic achievement. While comparing the mean scores of male and female XI standard students, the male XI standard students are better in their academic achievement.
- There is no significant difference between rural and urban school XI standard students in their academic achievement.
- There is no significant difference between XI standard students from nuclear family and joint family in their academic achievement.
- There is no significant difference between arts group and science group XI standard students in their academic achievement.
- There is no significant relationship between idealistic, pragmatic and analytic thinking styles and academic achievement of XI standard students, but there is significant relationship between synthetic and realistic thinking styles and academic achievement of XI standard students.

INTERPRETATIONS

The't' test result shows that the urban school XI standard students are better than the rural school XI standard students in their synthetic and pragmatic thinking styles. This may be due to the fact that the urban is the place where the technological activities and research works are done effectively and this is the prior cause for those who are coming from urban area to receive works more than the pupil who are coming from the villages.

The't' test result shows that the rural school XI standard students are better than the urban school XI standard students in their analytic and realistic thinking styles. This may be due to the fact that they are totally different from urban students. Rural students could understand the suffering of their parents and so they are able to lead their studies in a good way. From this we could understand that the rural school students are able to make their family background better than the urban students.

The't' test result shows that the XI standard students from joint family are better than the XI standard students from nuclear family in their idealistic thinking style. This may be due to the fact that the joint family students have a number of members at their home. So their ideas may be in such a way that their pattern of thinking would be idealistic. From joint family, the student is able to come out with many personalities and ideas, ,vhich ,vill be helpful for them to face current problems in their life. So the students from joint family have clear efficiency in learning than the students from nuclear family.

The't' test result shows that the arts group XI standard students are better than the science group XI standard students in their idealistic thinking style. This may be due to the fact that the arts group students are able to learn about the life histories of great personalities and their philosophies, but the science group students get involved only in their subjects and not the basic learning of life. This makes the arts group students better than the science group students in their idealistic thinking style.

The't' test result shows that the male XI standard students are better than the female XI standard students in their academic achievement. This may be due to the fact that, boys are frank enough to speak to all, while comparing to the girls. Boys have so many experiences and situations which they might have come across. Unlike boys girls are shy enough and finds disturbance while speaking with others. This shows that boys have guts to face any problems but girls are emotionally weak. Thus boys are better than girls.

The 'y' test result shows that there is significant relationship between synthetic and realistic thinking styles and academic achievement of XI standard students. This may be due to the fact that the XI standard students have good thinking capability. They have the will power to bring out victory. Only by their way of thinking, the students could make the academic achievement possible. It acts as a base for the achievement within a student. This is possible only through good education which is attained through different activities practised inside the class room.

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Research Article

Enhancement of Emotional Intelligence and Spiritual Intelligence Among B.Ed. Student-trainees

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ABSTRACT

Emotion is the subjective experience associated with personality, mood, temperament and disposition. The English word 'emotion' is derived from the French word emouvoir, but this is also based on the Latin word emovere, where e (variant of ex-) means 'out' and movere means 'move'. Emotion is a feeling that is private and subjective. Education for promoting relevant emotions needs to be recognized as an essential element of the educational process in the classroom since they strengthen the provided information, knowledge & wisdom and direct attention and facilitate the attainment of goals. 'Emotional Literacy' programme directly alter the level of success, self-esteem and well-being of a person. They help reverse a tide of educational decline and sustain the universal and eternal values oriented towards the unity and integration of the people, their moral and spiritual growth enabling them to realise the ‘treasure within’. Teachers do influence the personality of a student. The existing education system is a hybrid variety of conventional/ traditional, and modem I new generation type. There is a serious need for standardization. The ongoing pattern of education is linear oriented or ‘left-brain’ oriented. We seriously lack a holistic and integrated approach. The concepts of El and SJ with their enhancements are the need of the hour.

Keywords: emotional intelligence, spiritual intelligence, student-trainees, teacher education, personal development

INTRODUCTION

Most of the educators, especially from the 20th century onwards, lay stress on the social aspects of education in addition to the academic areas. They uphold that education is a life-long process by which an individual adapts himself/herself gradually and gracefully to the available physical, intellectual, emotional, social and spiritual environments. Hence, to carry

out the process of education, teachers' all round development should also be considered seriously at the pre-service level as well as continuously throughout his/her career.

MEANING OF EMOTION AND EMOTIONALITY

Emotion is the subjective experience associated with personality, mood, temperament and disposition. The English word 'emotion' is derived from the French word emouvoir, but this is also based on the Latin word emovere, where e (variant of ex-) means 'out' and movere means 'move'. Emotion is a feeling that is private and subjective. Humans can report an extraordinary range of states, which they can feel or experience. Emotion is a state of psychological arousal, an expression or display of distinctive somatic and autonomic responses. This emphasis suggests that emotional states can be defined by particular constellations of bodily responses. An emotion has been defined as "a complex feeling state with psychic, somatic and behavioural components that are related to affect mood" (Kalpan & Sadock, 1998). Emotion influences everyday behaviour and they can have a distorted effect on learning (Johnson, 1996: 185). It is a complex psychological and physiological phenomenon involving an individual's state of mind and its interaction between that individual and her/his environment. Among human beings, an emotion fundamentally involves "physiological arousals, expressive behaviours, and conscious experience" (Myers, 2001). Emotion is associated with mood, temperament, personality and motivation. Ekman (1972) (a Professor of Psychology, University of California) has identified "happiness, surprise, disgust, fear, anger & sadness" as six primary emotions.

MEANING OF SPIRIT AND SPIRITUALITY

The English word ‘spirit’ (from the Latin word, ‘spiritus’, which means “breath”) has many differing meanings and connotations, all of them relating to a noncorporal substance contrasted with the material body. The spirit of a human being is the animating, sensitive or vital principle in that individual, (similar to or same as the soul, ‘aatma’), taken to be the seat of the mental, intellectual and emotional powers. Spirituality is the belief in ultimate goodness and righteousness. Danesh (1997) in his book “The psychology of spirituality” opines that the ultimate human reality is a spiritual one. Spirituality is highly individual and intensely personal. It is the basic belief that there is a ‘supreme power’, a being, a force, whatever we call it, that governs the entire universe. There is a purpose for everything and everyone. It is inextricably connected with caring, hope, kindness, love and optimism.

TEACHER EDUCATION -EMOTIONALITY AND SPIRITUALITY

Sound education is expected to provide ways and means for achieving the development of body, mind and spirit. The main director for this change is the teacher. So teachers are to be emotionally and spiritually mature enough to deal with the emotional and spiritual needs of the students. During the pre-service programme itself, the Student - trainees need to be exposed to emotional and spiritual development programme.

INTELLIGENCE QUOTIENTS & TEACHER EDUCATION

In the early part of the 20th century, Intelligence Quotient (IQ) becan1e an impo1iant issue. Our intellectual or rational intelligence is what we use to solve logical or strategic problems. Theoretically, it has been conceived that only a person with higher intelligence gets identified with higher IQ, which is determined by reliable and valid instruments. ln the mid-l 990's Goleman strengthened the concept of Emotional Intelligence (EI) to represent people's feelings, although the same was conceptualized earlier by other psychologists. The ability to recognize and manage one's emotions is a skill that has to be developed, used and, hopefully, honed throughout one's lifetime. Bar-On could give the concept of Emotional Intelligence Quotient (EQ), in the process of his construction of the tool to measure El.

NEED AND IMPORTANCE OF EMOTIONAL INTELLIGENCE & SPIRITUAL INTELLIGENCE FOR TEACHER TRAINEES

Teachers do influence the personality of students. Their emotional, intellectual, social and spiritual realms have profound influence on the development of children. The proposed study is an attempt to analyse and to enhance emotional intelligence and spiritual intelligence of B. Ed. student- teachers. Based on NCF (2000) for School Education by NCERT, there is a need to assess not only the students' IQ, but also their EI & SI.

In fact, for a teacher, emotions can become a valuable tool for the education of different types of students. Learners even with a sincere desire to become 'too I perfect' might have: a fear of making errors, a fear of making wrong decision or choice, a strong devotion to work, a need for order and firm routine, emotional guardedness (care), a tendency to be stubborn or oppositional, a heightened sensitivity to being pressurized or controlled by others, a need to know and follow rules, an inclination to worry, ruminate or doubt, a chronic inner pressure to use every minute productively, etc.

Education for promoting relevant emotions needs to be recognized as an essential element of the educational process in the classroom since they strengthen the provided

inforn1ation, knowledge & wisdom and direct attention and facilitate the attainment of goals. 'Emotional Literacy' programme directly alter the level of success, self-esteem and well being of a person. They help reverse a tide of educational decline and sustain the universal and eternal values oriented towards the unity and integration of the people, their moral and spiritual growth enabling them to realise the 'treasure within'.

STATEMENT OF THE PROBLEM

Teachers do influence the personality of a student. The existing education system is a hybrid variety of conventional / traditional, and modern/ new generation type. There is a serious need for standardization. The ongoing pattern of education is linear oriented or 'left-brain' oriented. We seriously lack a holistic and integrated approach. The concepts of EI and SJ with their enhancements are the need of the hour. El and SI help in changing the mindset of an individual. Some studies carried out at the international level, do reveal that educators have not been perceiving the need for enhancement of EI and SI skills in their strive for excellence among their students. Only when the teachers are emotionally and spiritually intelligent, they can manage the emotional and spiritual development of their own students. The present research envisaged "enhancement of emotional intelligence and spiritual intelligence through the experiential le"rning process among sampled B.Ed student-trainees".

OBJECTIVES OF THE STUDY

The present study was designed with a view to fulfilling the following objectives based on the major research questions:

1. To develop various strategies for the enhancement of EI and SI among the sampled student-teachers.
2. To study the effectiveness of the developed strategies for enhancing EI and SI in tem1s of the student-teachers' responses before and after the implementations.

HYPOTHESES

1. There is no significant difference between the Emotional Intelligence (El) of the sampled B.Ed. Student- trainees in the control group and the experimental group before and after the treatment through enhancement programme.
2. There is no significant difference between the Spiritual lntelligence (SI) of the sampled B.Ed. Student – trainees in the control group and the experimental group before and after the treatment through enhancement programme.

POPULATION FOR THE STUDY

The target population of the present study refers to all the B. Ed student-trainees in selected Colleges of Teacher Education affiliated to Tamilnadu Teacher Education University, Chennai.

COMPARISON OF THE EXPERIMENTAL GROUP AND CONTROL GROUP IN THE PRE-TEST AND POST-TEST FOR EI

Table 1 Shows the comparison of the experimental group and control group in pre-test and post-test for the EI scores of the Student - trainees statistically measured with Percentage and Chi-square.

Test	EI	Frequencies			Chi Square	p value
		Experimental	Control	Total		
Pre Test	Moderate	4	4	8	0.000	0.05
	Good	26	26	52		
	Excellent	-	-	-		
Post Test	Moderate	]	4	4	13.532	0.01
	Good	21	26	47		
	Excellent	9	-	9		

The percentage of El scores, and comparison of the control & the experimental groups in pre-test / post-test are given in the above Table 1. The comparison of these values in percentage revealed that, there was some difference in the pre-test and the post-test of the experimental group, whereas there was no considerable difference for the control group in the case of EI.

In the experimental group, all the Student - trainees fall either under 'moderate' or 'good' categories for EI in pre-test moderate: 4, good: 26 where as in the post-test, the student-trainees fall under 'good' and 'excellent' good: 21, excellent: 9. In the control group, for the pre-test and post-test, all the Student-trainees fall under the categories, 'moderate' and 'good' only [moderate: 4, good: 26. From this, it was inferred that enhancement programme was effective to improve the EI of B. Ed. student-trainees.

Comparison between the Pre-test and the Post-test of the Control Group for the EI and Its Four Clusters The scores obtained by the participants (B. Ed. student-trainees) in the control group were further compared by testing for the difference between the mean scores for each dimension in the pre-test and the post-test. Table 2 shows the comparison of the

transformed scores of the control group between pre-test and post-test for the EI and its four clusters (self-awareness, self- management, social awareness and relationship management) of the B. Ed. student-trainees obtained through the use of Mann Whitney U test in each case:

Parameters	Test	Mean	Median	+SD
Self Awareness	Pre - Test	3.70	4.00	0.466
	Post - Test	3.73	4.00	0.456
Self Management	Pre - Test	3.77	4.00	0.430
	Post - Test	3.77	4.00	0.430
Social Awareness	Pre - Test	4.07	4.00	0.521
	Post - Test	4.10	4.00	0.481
Relationship Management	Pre - Test	3.83	4.00	0.379
	Post - Test	3.90	4.00	0.305
Emotional Intelligence	Pre - Test	3.87	4.00	0.346
	Post - Test	3.87	4.00	0.346

The values given in Table 2 show that in the control group, the EI based on its four clusters, viz., self-awareness, self-management, social awareness and relationship management, have no significant change between the Pre-test and the Post-test; as shown on the last row in Table 2, EI when taken together for all dimensions too, the changes between the Pre- and Post-test for the control group was not significant. When the mean scores were tested for significance, Mann Whitney U value obtained was found not significant at 0.05 level. This shows that there was no significant difference between the pre-test score and the post-test score of the control group in the EI and even in its four clusters separately, among the sampled B.Ed.student - trainees.

COMPARISON BETWEEN THE PRE-TEST AND THE POST-TEST OF THE EXPERIMENTAL GROUP FOR THE EI

The scores obtained by the student-trainees in the experimental group were compared by testing for the difference between the mean scores of the pre-test and the post-test. Table 3 shows the comparison of the transformed scores of the experimental group between pre-test and post-test for the EI and its four clusters (self-awareness. self-management, social awareness and relationship management) of the B. Ed. student-trainees obtained through the application of Mann-Whitney U test in each case.

Parameters	Test	Mean	Median	+SD
Self Awareness	Pre - Test	3.70	4.00	0.466
	Post - Test	3.80	4.00	0.456
Self Management	Pre - Test	3.77	4.00	0.430
	Post - Test	3.87	4.00	0.430
Social Awareness	Pre - Test	4.07	4.00	0.521
	Post - Test	4.1*S*	4.00	0.481
Relationship Management	Pre - Test	3.83	4.00	0.379
	Post - Test	3.90	4.00	0.305
Emotional Intelligence	Pre - Test	3.90	4.00	0.346
	Post - Test	3.87	4.00	0.346

Mann Whitney U value: significant at 0.01 levels

The values given in Table 3 show that in the experimental group, the EI as represented by its four clusters individually, viz. self-awareness, self-management, social awareness and relationship management, has improved/ enhanced as a result of the offered programme. When the mean scores were tested for significance, Mann Whitney U value obtained was found significant at 0.01 levels. EI when taken together also, as shown in the last row of Table 3, there was significant difference between the pre-test score and the post-test score of the experimental group. This showed that there was significant difference between the pre-test score and post-test score of the experimental group. The high post-test score obtained indicated that the enl1ancement programme did help to improve the EI level of the sampled B.Ed. student-trainees.

QUANTITATIVE ANALYSES AND INTERPRETATIONS OF THE DATA OBTAINED

USING SPIRITUAL INTELLIGENCE (SI) RATING SCALE

For assessing whether there was any enhancement in the SI of the participants after the programme, hypothesis-II was tested. i.e. Hypothesis Il: There will be no significant difference in the Spiritual Intelligence (SI) of sampled B. Ed. Student trainees in the control group and the experimental group before and after the treatment through enhancement programme. To test this hypothesis, both pre-test and post-test for both the experimental group

and control group were administered and Spiritual Intelligence Rating Scale (self constructed) was used (same rating scale was given for both pre-test and post-test) to assess the overall enhancement of SI. Statistical measures used were Percentage, Chi-square, Mean, Median, Standard Deviation and Mann Whitney U. The statistical analyses done on the collected data and the interpretation of the data are as given below:

Comparison of the Experimental Group and Control Group in the Pre-test and Post-test for the SI Table 4 shows the comparison of the experimental group and control group in pre-test and post-test for the SI scores of the student-trainees statistically measured with Percentage and Chi-square.

Test	SI	Frequencies			Chi Square	p value
		Experimental	Control	Total		
Pre Test	Moderate	-	2	2	5.933	0.05
	Good	22	26	48		
	Excellent	8	2	10		
Post Test	Moderate	-	1	1	22.611	0.01
	Good	12	28	40		
	Excellent	18	1	19		

Comparison Between The Pre-test and The Post-test of The Control Group For The Si.

The scores obtained by the participants (B. Ed. student-trainees) in the two tests in the control group were compared by testing for the difference between the mean scores of the pre-test and the post-test for significance. Table 5 shows the comparison of the sum of scores and the transformed scores of the control group between pre-test and post-test for the SI of the B. Ed. student-trainees statistically computed through the use of Mann Whitney U

Parameter	Group	Mean	Median	SD
Spiritual intelligence	Pre - Test	4.00	4.00	0.371
	Post - Test	4.00	4.00	450.0

The values given in Table 5 show that, in the control group, the SI has no such significant change. When the mean scores were tested for significance, Mann Whitney U value obtained was found not significant at 0.05 levels. This showed that there was no significant

difference between the pre-test score and post-test score of the control group in the SI of the B. Ed. student-trainees.

Findings/conclusions From The Quantitative Analyses and Interpretations of The Data Obtained Using Emotional Intelligence (EI) Rating Scale

1. There was significant difference in the pre-test and post-test scores of the experimental group of the B. Ed. Student - trainees whereas no major difference was found in the control group for the El.
2. There existed no significant difference between the pre-test score and the post-test score of the control group in the EI and even in its four clusters separately, among the sampled B. Ed. student-trainees.
3. A significant difference was found between the pre-test score and post-test score of the experimental group in EI and in its four clusters separately, among the sampled B. Ed. Student - trainees.
4. There existed no significant difference between the control group and experimental group in the pre-test scores on the EI and its four clusters among the sampled B. Ed. Student- trainees.
5. There existed a significant difference between the control group and the experimental group in the post-test on EI and in its four clusters separately, among the sampled B. Ed. Student - trainees.

Based on the rejection of the null hypothesis-I, it was found out statistically that the EI enhancement programme was effective in enhancing the emotional intelligence of the experimental group.

Findings / Conclusions From The Quantitative Analyses and Interpretations of The Data Obtained Using Spiritual intelligence (SI) Rating Scale

1. There existed significant difference in the pre-test and post-test of the experimental group, where as there was no considerable difference for the control group for the SI.
2. There was no significant difference between the pre-test score and posttest score of the control group in the SI of the B. Ed. Student - trainees.
3. A significant difference was found between the pre-test score and post-test score of the experimental group.

4. There was no significant difference between the control group and the experimental group in the pre-test scores for the SI of the B. Ed. Student-trainees.
5. There existed significant difference between the control group and experimental group in the post-test.
6. There was no significant difference between the pre-test score and the post-test score of the control group in the five clusters of SI separately (too) of the B. Ed. Student-trainees.
7. There existed significant difference between the pre-test score and posttest score of the experimental group in the clusters of SI separately, except for Ultimate Reality aspects and Holistic aspect.
8. There was no significant difference between the control group and the experimental group in the pre-test scores for the clusters of SI taken separately, except for Life & Death (Natural) aspect of the B. Ed. Student - trainees.
9. A significant difference was found between the control group and the experimental group in the post-test for the clusters of SI taken separately, except for Life & Death (Natural) aspect of the B. Ed. Student - trainees. Thus it was found out statistically that the SI enhancement programme was effective in enhancing the spiritual intelligence of the experimental group.

MAJOR FINDlNGS / CONCLUSIONS OF THE STUDY

1. The quantitative dimension in this investigation, i.e. the quasiexperimental design used for the study, did provide enough statistical confidence in deciding the success story of the enhancement programme. Based on the rejections of the two null hypotheses framed, it was found that the enhancement programme in both the cases (i.e. EI & SI) seemed to be a successful one, with all the statistical evidences (using chi-square tests & Mann- Whitney U tests for the different relevant groups and clusters - separately and jointly.

a. There existed no significant difference between the pre-test and post-test scores of the participants of the control group for all the clusters of EI & SI (jointly as well as separately) and in the case of experimental group, significant difference did exist

b. A significant difference was found between the experimental group and the control group in the post-test scores for the five clusters (jointly as well as separately) of El as well as SI among the B.Ed Student- trainees.

2. This study, being (mainly) developmental one with evolving methodologies, its success, depended on the everyday (mutual) feedback and dialogues between the participants and the researcher along with certain experts. The qualitative data obtained during the programme using, diary writing by the participants, verbal responses of the pa1ticipants, casual observations, anecdotal records, photographs, etc. were subjected to rigorous content analyses (at manifest and latent levels) to come out with the following rich findings

a. All the Student - trainees gave highly favourable opinions about EI & SI enhancement programme and showed great interest in attending (100%) the same.

b. Based on the analyses of Feedback Reaction Scales & rigorous content analyses of the content of the participants' diaries, casual observation and anecdotal records, it was clearly revealed that a continuous transformational change has been taking place among the participants as a result of EI & SI enhancement programme. The participants reported that they were able to apply the knowledge, understanding and skills they gained in the enhancement programme in their teaching (teaching practice) and learning process and in their day-to-day dealing in life.

Hence, the developed EI & SI enhancement programmes were found to be effective in terms of raising the emotional & spiritual intelligence levels of Student-trainees.

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Conceptual Article

Teaching Approach in Physics

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ABSTRACT

"Semiconductor devices and their applications" is a chapter introduced in the Standard XII Physics portion. This unit starts with the basic information of semiconductors and then advances to the functions of semiconductor devices such as rectifier, amplifier, oscillator, integrated circuits, digital electronics and operational amplifier.

Though the students know the importance of this unit, they avoid selecting questions from this unit. Those who select also make many common errors and lose marks. This is mainly due to the lack of previous knowledge, confusion between similar concepts and also misinterpretation of impo1iant concepts. Some of the misconceptions are identified and their remedial measures are suggested below.

Keywords: teaching approach, physics education, instructional methods, pedagogy, science teaching

INTRODUCTION

The most important and crucial stage of school education is the higher secondary level. This is the transition level from a generalised curriculum to a discipline - based curriculum. In order to pursue their career in basic science and professional courses, students take Physics as one of the subjects. It is felt that the students of the higher secondary school level must have a thorough knowledge about semiconductor devices because of its applications in various fields. To provide them sufficient background to meet the challenges of academic and professional streams, "Semiconductor devices and their applications" is a chapter introduced in the Standard XII Physics portion.

Many new concepts, circuit diagrams and various applications of Semiconductor Devices are given in this unit. A few concepts given here are little above the maturity level of students. So the students find this unit difficult and misunderstand the concepts.

Based on this chapter a Diagnostic Test was conducted in different schools. By analysing the errors committed by the pupils, the reasons for making mistakes are identified and the remedial measures are suggested here.

Remedial measures

1. **Difficult Concepts**

Students were not able to answer on complex and difficult concepts like energy band, oscillator and operational amplifier. To understand different concepts which are complex in nature, students must have a thorough knowledge about all the simple concepts. Since many new concepts are introduced in this chapter and this chapter is given in the XII Standard only, it is difficult for the students to learn all the given concepts.

Students must be encouraged to learn all the complex concepts in association with simple concepts. They can be taught ,with the help of various examples so that they can learn the concepts with understanding.

Example: oscil1ator, operational amplifier

2. **Constant Values**

Some of the constant values are given in this unit. These constant values are to be memorized and stored in the knowledge level. Due to lack of remembering and recalling, the students write wrong values and also the power terms.

Students should be taught the concepts clearly. They must be given practice to derive the values and their units with the help of fundamental quantity while using fornrnlae. Problems involved ,with these values like the charge, mass of the proton and electron should be frequently given to the students for practice. Example: charge of electron, mass of electron.

3. **Similar Concepts**

Some of the concepts given in this unit have resemblance among themselves. So students find it difficult to comprehend them.

Students must be taught the similar concepts clearly with their similarities, differences, advantages and disadvantages.

Example: donor energy level and acceptor energy level Analog signal and digital signal

4. **Units**

Most of the students memorise the units and write from memory. Since they do not know how to derive the units from the formula, they get confused and make mistakes.

Examples: resistivity, conductivity

The basic concepts of resistance, conductance, resistivity and conductivity should be explained with the help of simple examples and formulae. Students must be trained to derive the unit from the formula. For each chapter, an objective test can be conducted for units.

5. Problems

Many students commit mistakes while solving problems. So to be on the safer side, they avoid attempting application level questions.

Students are afraid of the problems in Physics due to poor understanding of concepts and lack of application of concepts. The clarity to identify which fonnula is to be used in which situation becomes essential. At times they interchange numerator and denominator terms. They go wrong in the conversion of units in one system into units in another system.

Students must be trained to select the correct fonnula. Their fear of doing problems should be removed by giving simple problems with examples. Repeated practice should be given to the students to solve problems.

6. Calculations

Students go wrong in the simplification when negative and positive terms are involved. Power term calculation also becomes difficult for a few students. Students get confused with the logarithm calculation also.

Students must be trained to do calculations carefully. They must avoid using calculators for calculations.

7. Advantages/Properties/Characteristics

Properties of similar devices are given in the case of common emitter transistor, amplifier, negative feedback and operational amplifier. Here some of the properties are common while others are uncommon. The students get confused and hence mix up all the points.

Concepts should be explained clearly to the students, so that they can write the different characteristics of the devices without confusion. In the CE transistor circuit, the resistance connected to the output should be low to draw the output current. This is the reason that the output impedance of the transistor circuit is low.

Example: characteristics of CE transistor, operational amplifier.

8. Examples

Lack of understanding about concepts along with their example leads to confusion.

Concepts of conductor can be (shown) explained ,with the help of examples such as copper, gold and silver. In the same way the concept of insulator can be explained with examples like plastic, wood, air and so on.

Students can be made to write the names of conductor and insulator available inside the class room. They can also be asked to write examples of conductor and insulator that they use in their day to day life situations, so that they can remember the concepts conductor and insulator along with their examples.

9. Symbols

Due to lack of understanding and practice, students misinterpret the symbol of devices such as diode, transistor and logic gates.

Example: zenerdiode, Light emitting diode

10. Circuit diagrams

To draw a circuit diagram various components in the circuit, biasing and the direction of flow of current must be known. Due to lack of understanding and lack of practice in electrical circuits, students make mistakes while drawing circuit diagrams and marking the direction of flow of current. Since they do not have a clear understanding of positive and negative terminals of a device students interchange the polarity when they draw circuit diagrams. If the students are not confident about these points, they commit mistakes.

Example: PNP and NPN transistors

Most of the students omit drawing circuit diagrams due to lack of confidence and practice. So the students must be trained to give proper biasing in the circuit and also the direction of current. They must be taught from the basic concepts such as charge carriers, majority carriers, minority carriers, P-type, N-type and then biasing. Practice should be given to the students in drawing the circuit diagram in practical as well as in theory classes.

11. Graphs

To draw graphs students need to know the terms taken along X and Y axes, the unit and values (milli or micro) of the term. The shape of the curve must be known to the students. They must know how to draw the slope of the curve also (input impedance, output impedance).

Students must be trained to select the proper terms along X and Y axes with the correct unit and power tem1s and also the shape of the curve. This can be done by giving proper practice in this area in practical and theory classes.

General suggestions to teach the unit Semiconductor Devices and their Applications

The teacher should make the introduction class very interesting by giving many examples connected with daily life situations related to semiconductor devices and encourage the students to participate in the teaching learning process. Students should be made to interact with the teacher while they learn this chapter. Teachers can ask some thought provoking questions and students could be helped to arrive at the answers.

Students could be shown devices such as diodes, transistors and integrated circuits (gates, operational amplifier) in the class when the teacher introduces the particular concept in the class. Pictures of different types of these devices can be shown in the class. Working models can also be shown. Teachers can help the students to give connections of various circuit diagrams to obtain the output. Students can be given assignments (i) to draw or collect the pictures of the semiconductor devices they have learnt (ii) to draw the symbol representation of all these devices (iii) the Boolean expression, truth table of the gatescircuit (iv) all the possible circuit diagrams and combination of gate circuits and (v) graphs at the end of the unit. Students should be motivated to complete this assignment. By doing this, students will develop an interest towards this unit and also will be confident in these concepts.

Conclusion

To learn this chapter well, students can be asked to conduct quiz programmes for other school students with the help of teachers. Guest lectures can be arranged to know the latest infom1ation in the field. By providing such opportunities, students will be enlightened and will be interested to know more details. By doing so the students will not have a fear of learning this particular chapter. The concepts they learn from this chapter will be retained forever.

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Research Article

A Study of Teacher Efficacy and Burnout among School Teachers in Tamil Nadu

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ABSTRACT

Burnout is a problematic phenomenon as far as teaching profession is concerned. It impairs the psychological well-being of the teachers which in turn affects the quality, competence and character of teachers. Research indicates that teacher efficacy is a powerful variable having positive effect on teacher performance. Teacher efficacy refers to teacher's belief in his/her own capacity to promote learning among students. The objectives of the present study were to examine whether teachers differ in dimensions of burnout owing to variations in the level of teacher efficacy and to explore the relationship between dimensions of burnout and teacher efficacy. Findings indicated that teacher efficacy plays an important role in reducing burnout among teachers. The results contribute to the existing body of literature maintaining that in order to practice and succeed in the complex and demanding school environment without being affected by burnout and to have a positive impact over the academic achievement of all types of students, teachers must have a strong sense of efficacy.

Keywords: teacher efficacy, burnout, school teachers, Tamil Nadu, teaching profession

INTRODUCTION

Education is the most powerful instrument for human development, social progress and more viable future. It is a tool used for the integration of the individual into the society so that he can achieve self-realization, develop national consciousness, promote unity and strive for social, economic, political, scientific, cultural and technological progress (Afe. 1995).

Education as a social system consists of three main elements, namely, teachers, students and curriculum. However, the most basic element affecting the educational process is the teacher since he/she has significant effect on the other two elements. It is the teacher who

can enhance the quality of education by giving life to curriculum and by shaping the cognitive, psychomotor and affective abilities of future generations.

In the present age, expansion of access to education, invasion of new teaching methodologies and modern technologies in the classroom, grow1h of heterogeneous student community and more demands from the stakeholders have made the teacher's role a complex one. Teachers should have a strong sense of efficacy and mental health to play the multifarious roles expected of them.

Effective and efficient teaching is not an easy task and to continue to teach effectively is even more difficult to achieve. Yet, if teachers are to meet the demands of the members of the knowledge economy, they should be unaffected by burnout, a personally destructive response to excessive stress and exhibit higher level of efficacy. They need to believe that they can bring a qualitative difference in the learning of the students.

In the view of Maslach (1993), burnout is a major concern in teaching profession, since it is the most unique human service occupation. Burnout is a psychological syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who work with other people in some capacity, according Maslach and Jackson (1996). Burnout refers to the loss of enthusiasm, excitement and essence of mission in one's work. It also causes a feeling of helplessness, negative self-concept and attitude towards work, life and other people (Khan, 2008).

On the other hand, teacher efficacy is a powerful motivational construct that reflects a teacher's belief in his/her own capability for teaching tasks. Teacher efficacy has been defined as the extent to which the teacher believes he or she has the capacity to affect student performance (Berman, McLaughlin, Bass, Pauly, &Zellman, 1977). Teacher efficacy influences student achievement, attitude and affective growth. Research studies indicate that teachers with strong efficacy beliefs have greater commitment to teaching and are more likely to stay in teaching in spite of its stressful nature.

Need and Significance of the Study

Teaching involves daily, intensive and extensive use of emotional labour, and emotional work which enables teachers to manage the challenges of teaching classes which contain students with a range of diverse motivations, personal histories and learning capacities. However, too much of the former leads to a disengagement with the complexities of teaching and learning; and too much investment of one's emotional self may lead to personal

vulnerability, feelings of inadequacy at being unable to engage everyone in learning all the time and, in extreme cases, overwork and breakdown (Day 2004). Many studies on burnout highlight the role of work stressors, classroom climate and working conditions in the causation of burnout (Burke, 1993; Srivastav, 2003).Hence, burnout among teachers is a matter of concern for the society.

Various researches on teacher efficacy highlight its significant role in teaching learning process. Bandura (1997) emphasized that high self-efficacy is a predictor of increased motivation to achieve goals and feeling more comf011able in coping with unfavourable environments. According to Fives (2006), increase in efficacy decreases burnout. Flores (2004) stated that belief in strong teaching efficacy and poor perception of personal competence leads to teacher burnout. Kudva (1998) who conducted an in depth study of teacher burnout arrived at a conclusion that teachers with low role efficacy perceive high burnout.

Although these constructs have been investigated in various angles before, the knowledge about how teacher efficacy is related and associated with burnout is still inconclusive. Hence, the researcher has taken up a study to analyse the relationship between teacher efficacy and burnout among teachers.

Objectives of the Study

- To study whether teachers differ in dimensions of burnout owing to variations in the level of teacher efficacy and
- To study the relationship between dimensions of burnout and teacher efficacy.

Hypotheses

1. There is significant difference between teachers of low personal efficacy and high personal efficacy with reference to dimensions of burnout namely emotional exhaustion, personal accomplishment and depersonalization.
2. There is significant difference between teachers of low teaching efficacy and high teaching efficacy with reference to dimensions of burnout namely emotional exhaustion, personal accomplishment and depersonalization.
3. There is significant relationship between each dimension of burnout and i) personal efficacy and ii) teaching efficacy for the whole sample.

Method of Study

A descriptive survey method of research was employed in the present study.

Tools Used

- Teacher Efficacy Scale by Tschannen -Moran and Woolfolk and Hoy (1990) which is an adapted version of the Teacher Efficacy Scale constructed by Gibson & Dembo (1984). The instrument was designed to measure two dimensions of Teacher Efficacy namely personal efficacy and teaching efficacy.
- The MBI - Educators survey developed by Maslach, Jackson and Schwab (1996) to assess the burnout level of the teachers. Out of its three dimensions, emotional exhaustion and depersonalization are negative emotions. The high scores in both the dimensions show high burnout. Personal accomplishment dimension shows the positive feeling of the teachers and hence the low accomplishment indicate high burnout among teachers.

Though both the tools are standardized ones, the reliability of the tools was established by following test-retest method and the validity of the tools was found by computing the square root of the co-efficient of reliability. The obtained values indicated high reliability and validity of the tools.

Sample

The sample constituted 430 teachers drawn from 30 schools in Chennai and Thiruvam1amalai districts. Random sampling technique was followed for the selection of sample.

Analysis of Data

In order to arrive at meaningful interpretations of the raw scores, the data was analysed using Arithmetic mean, SD, 't' test and Karl Pearson's Product Moment Correlation.

Table 1

Classification of Whole Sample According to Varying Levels of Teacher Efficacy

Variable	Dimensions	Low		Moderate		High	
		No.	%	No.	%	No.	%
Teacher Efficacy	Personal Efficacy	111	25.81	194	45.12	125	29.07
	Teaching Efficacy	96	22.23	217	50.47	117	27.2]

It is inferred from Table 1 that out of 430 teachers, 194 teachers fall under average personal efficacy category and 217 teachers possess average teaching efficacy. Nearly 30% of

the teachers have high personal efficacy and 27% of the teachers have high teaching efficacy. Out of 430 teachers, only 96 teachers seem to have low teaching efficacy.

Hypothesis – 1

There is significant difference between teachers of low personal efficacy and high personal efficacy with reference to dimensions of burnout namely emotional exhaustion, personal accomplishment and depersonalization.

Critical ratios were computed to study the differences in dimensions of burnout between teachers oflow and high personal efficacy and the results are presented in Table 2.

Table 2

't' Ratios for Differences in Dimensions of Burnout Between Teachers of Low and High Personal Efficacy

Burnout Dimensions	Level of Personal Efficacy	N	Mean	SD	df	Critical ratio
Emotional Exhaustion	Low	1J1	22.23	5.73	234	5.22**
	High	125	17.77	7.20		
Personal Accomplishment	Low	111	24.11	4.65	234	10.40**
	High	125	31.60	6.20		
Depersonalization	Low	111	12.33	3.95	234	4.59**
	High	125	9.86	4.28		

** P < 0.01

From the critical ratios computed and presented in Table 2, it is evident that there is significant difference (t = 5.22, P < O.OJ; t = 10.40, P < 0.0] and t = 4.59, P < 0.0]) between teachers of low and high personal efficacy in their levels of emotional exhaustion, personal accomplishment and depersonalization. Teachers having low personal efficacy seem to be more emotionally exhausted and depersonalized than those with high personal efficacy. On the other hand, teachers with high level of personal efficacy have better personal accomplishment than those with low personal efficacy.

Hypothesis – 2

There is significant difference between teachers of low teaching efficacy and high teaching efficacy with reference to dimensions of burnout namely emotional exhaustion, personal accomplishment and depersonalization.

Critical ratios were computed to study the differences in dimensions of burnout between teachers of low and high teaching efficacy and the results are presented in Table 3.

Table 3

't' Ratios for Differences in Dimensions of Burnout Between Teachers of Low and High Teaching Efficacy

Burnout Dimensions	Level of Teaching Efficacy	N	Mean	SD	df	Critical ratio
Emotional Exhaustion	Low	96	22.36	7.69	211	3.11**
	High	117	19.38	6.32		
Personal Accomplishment	Low	96	27.76	7.23	211	1.13**
	High	117	28.75	5.58		
Depersonalization	Low	96	12.56	3.86	211	4.34**
	High	117	10.24	3.91		

** P < 0.01

From the critical ratios computed and presented in Table 3, it is clear that there is significant difference (t = 3.11, P < 0.01; and t = 4.34, P < 0.01) between teachers oflow and high teaching efficacy in their level of emotional exhaustion and depersonalization. Teachers with low teaching efficacy are more emotionally exhausted and depersonalized than teachers with high teaching efficacy. However, there is no significant difference between teachers of low and high teaching efficacy in their accomplishment level.

Hypothesis – 23

There is significant relationship between each dimension of burnout and i) personal efficacy and ii) teaching efficacy for the whole sample.

To test the hypothesis, con-elation coefficients were computed and the results are presented in Table 4.

Table 4

Pearson's Product Moment Correlation Coefficient Between Teacher Efficacy and Dimensions of Burnout for the Whole Sample

Variable	Dimensions	Emotional Exhaustion	Personal Accomplishment	Depersonalization
Teacher Efficacy	Personal Efficacy	-0.2736**	0.4630**	-0.2631**
	Teaching Efficacy	-0.1526**	0.0872	-0.2059**

**P < 0.01

There is significant positive correlation between teacher's personal efficacy and personal accomplishment (r = 0.4630, P < 0.01) whereas a negative correlation is found between personal efficacy and the other two dimensions of burnout for the whole sample.

There is significant negative correlation between teaching efficacy and emotional exhaustion (r = -0.1526, P <0.01) and, teaching efficacy and depersonalization of teachers (r = - 0.2059, P <0.01). However, no correlation is found between teaching efficacy and personal accomplishment.

Discussion

From the present study, it can be said that teachers with high personal efficacy and teaching efficacy are less exhausted emotionally and less depersonalized. Personally efficacious teachers are highly accomplished also. Similarly, the results of correlation analysis indicate that there is significant negative correlation between (i) personal efficacy and emotional exhaustion, (ii) personal efficacy and depersonalization, (iii) teaching efficacy and emotional exhaustion and (iv) teaching efficacy and depersonalization. Whereas, a significant positive correlation is found between personal efficacy and personal accomplishment of teachers. This finding indicates that higher the personal efficacy higher the personal accomplishment of teachers. On the other hand, higher the personal efficacy of teachers, lower would be their emotional exhaustion and depersonalization. Hence, measures should be taken to strengthen the efficacy beliefs of the teachers.

Teachers need a thorough understanding of the complexity of the teaching task so that they can simplify the task by breaking it down into a manageable subset of skills and focus on the improvement. Team work among the teachers to address the school level situations and conditions that affect teaching provide the opportunity for enhanced efficacy beliefs. Repeated in-service training programs can be helpful in developing teachers' belief and value system so that they become aware of their various academic responsibilities and carry them out effectively.

Conclusion

A teacher is a central figure in the formal teaching learning process. Quality teachers determine the quality of education. Hence, the psychological well-being of the teachers has to be protected from burnout. The development of a strong sense of personal efficacy and teaching

efficacy can pay dividends of higher motivation, commitment and resilience across the span of a teaching career and reduce burnout in teachers.

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