PREDICTING ACHIEVEMENT IN PHYSICAL SCIENCE AMONG THE SECONDARY TEACHER TRAINEES THROUGH TIME MANAGEMENT STRATEGY

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Abstract

Life Without any stress would be boring and probably feel pointless. Stress can affect both our body and mind. Mind is the integral part of our life. When it gets disturbed the whole system of our body feels progressive disturbance is due to stress. Now a day's stress plays a vital role in every part of our human life. People under large amount of stress can become tired sick and unable to think or concentrate clearly. Stress is caused by both good and bad Experiences. Time management strategies are often associated with the recommendation to set personal goals. These goals are recorded and may broken down into a project, an action plan, or a simplest task list. The purpose of the study was to assess the achievement in physical science among the secondary teacher trainees by adopting time management as a stress reducing strategy. The study followed experimental method where pre-test and post-test parallel group design was introduced. The data collected from different groups were employed by using mean, standard deviation, and 't'- test. The results of the study were in the favour of keeping time management as one of the stress reduction strategies and found to be effective in order to improve better in their learning and academic achievement with reference to physical science. It is therefore suggested that this strategy should be widely adopted for enhancing the academic achievement in physical science among secondary teacher trainees.

Introduction

For an instance whenever the people feel stressed by something, which leads good, then their body reacts by releasing chemicals into blood. This released chemicals substance fetch people more energy and strength, sometimes this can also be a bad thing, if their stress is in response to something emotional and there is no outlet for this extra energy and strength. In this way stress affect the Human life in a good and bad way. Stress may be defined as "a state of psychological and /or physiological imbalance resulting from the disparity between situational demands and the individual's ability and /or motivational to meet those demands". Dr. Hans Selye, one of the leading authorities on the concept of stress, described stress as "the rate of all wear and tear caused by life. Time management refers to making the best use of time as time is always limited. It is rightly said "Time and Tide waits for none". An individual should understand the value of time for him to succeed in all aspects of life. People who waste time are the ones who fail to create an identity of their own.

Time management refers to managing time effectively so that the right time is allocated to the right activity. Poor time management can create a lot of stress in our daily life. When we commit a lot of work in a short period also create a stressful life. But if we plan the work and do it systematically, we make sure that we are getting relaxed to some extent. Planning, scheduling, and completing the work in allotted time, are very important factors in time management. Effective time management allows individuals to assign specific time slots to activities as per their importance. Every B.Ed., trainees are having stress due to heavy record work, Internship in teaching, and regular class tests. The only solution to complete the heavy work by breaking the work with particular time limit, according to the work. In order to bring them in a stress free situation, the investigator would like to conduct this study.

Review of Related Literature

In order to utilize time effectively, individuals must first be able to predict how much time is needed for the activity (Kelly, 2002). An individual will become effective in using their time only when the individual clearly knows what they want to do, what they need to do, and for which specific target date (Soucie, 1986). Individuals need to become more disciplined in their use of time by respecting their established priorities while minimizing distractions from others as well as from situations that have the ability to displace priorities in terms of time and energy (Soucie, 1986). According to Crutsinger (1994), time management involves determining what one should do by setting goals, deciding which events are the most important and realizing that other activities will have to be scheduled around them (prioritizing), making decisions about how much time to allow for certain tasks (time estimation), adjusting to the unexpected (problem solving), reconsidering goals and priorities on a regular basis (evaluation), and observing patterns and trends in behavior. There is debate over exactly what skills and behaviors constitute effective time management. For example, Shipman (1983) identified six principles for effective time management. These principles included being aware of self, structuring time appropriately, setting goals and priorities, increasing personal efficiency and effectiveness, scheduling time for activity, and scheduling relaxation time. Time management behaviors have more recently been characterized as making lists, organizing, goal setting, keeping and routinely evaluating one's schedule, and breaking down tasks into simpler parts (Kelly, 2002).

Need and Significance of the Study

From the theoretical evidences as well as the case reports or B.Ed., teacher trainees in Colleges of Education and training most of the stressors are psychological in origin. The investigator observed the B.Ed., trainees who are facing so many constraints in

their college of education and training when compared to traditional colleges already studied conventionl programmes such s UG or PG programme.

As the teacher trainees came from various economic, social and cultural background, they face some problems when they stay together in the Hostel as the Institute and Hostel atmosphere is ne w to them, they struggle hard to adjust with the new environment. Most of the B.Ed., trainees are affected strongly by stress in this situation. In order to bring the B.Ed trainees in a stress free situation, the technique was adopted for the B.Ed., trainees to achieve good marks. So, the investigator has chosen the topic **"Predicting Achievement in Physical Science Among the Secondary Teacher Trainees Through Time Management Strategy"**

Objectives of the Study

The objectives of the study are stated as follows

1. To study time management as stress reduction strategy for the B.Ed., teacher trainees.
2. To develop and validate time management as a stress reduction strategy for the B.Ed., teacher trainees.
3. To find out the effectiveness of time management to reduce stress and on the achievement among B.Ed., teacher trainees in physical science.
4. To find out the significant difference between pre-test and post-test of the control group.
5. To find out the significant difference between pre-test and post-test of the experimental group.
6. To find out the significant difference in the post-test of the experimental group in terms of their gender, type of management, and their place of stay.

Hypotheses of the Study

The light of the above objectives, the following hypotheses were formulated.

1. There is no significant difference between control and experimental group at pre-test.
2. There is significant difference between control and experimental group at post-test.
3. There is no significant difference between pre-test and post-test scores of the control group.
4. There is significant difference between pre-test and post-test of the experimental group.
5. There is significant difference between students hosteller and dayscholars at the post-test of the experimental group.

6. There is significant difference between U.G and P.G at the post-test of the experimental group.

Methodology

The study was conducted among the B.Ed., trainees from two Colleges of Education Pudukkottai. The study was experimental in nature and hence the investigator adopted the parallel group design (Best and Khan 2002). The investigator used simple random sampling technique (Macmillan and Schumacher, 1984).The investigators collected sample from the B.Ed., trainees, and a homogeneous group of seventy B.Ed., trainees from two colleges of Education were selected for the investigation. The stress Inventory scale was administered on a random sample of 50 respondents. Five point scales was used to indicate the level of the intensity of stress. They were randomly categorized as control group and experimental group, each group consisted of twenty five secondary teacher trainees.

It is intended to assess the difference of control group from the experimental group in accordance with the application of the time-management technique. The control group was exposed without adopting the time-management strategy. The experimental group was exposed by adopting time management as a stress reduction strategy. After giving the time management strategy the achievement in physical science was assessed by the questionnaire. The knowledge gained in physical science by the experimental group was measured and compared with the control group in terms of their learning and achievement in physical science and resulting the difference in terms of their achievement scores which attributed to its effectiveness.

Adoption of Time Management as Stress Reduction Strategy

The stress reduction strategies have been identified and adopted for B.Ed., trainees of physical science group. In order to get relief from their academic stressful situation during their study, the stress reduction technique properly formulated in the present study, which includes the following steps.

- Identifying the Groups (Control and Experimental Group)
- Encountering the Problem, while learning physical science.
- Identify the strategy to reduce stress in Managing time with goal.

Validation of Stress Reduction Strategy

The stress reduction strategy was viewed to a group of experts which consisted of education management and the faculty members in the field of physical science. Their rating about the strategy was recorded.

Statistical Techniques Used

For the analysis of data – mean, standard deviation, and 't'- test were employed in this study.

Data Analysis of Control Group

In this study the pre-test and post-test performance is being compared and the significant difference between mean scores of the pre-test and post-test performance was found by using 't' test.

Analysis of Pre-Test Means Scores of Control and Experimental Groups

The significance of difference between the pre-test mean scores of control group and experimental group is shown in table -1

Table 1: Mean and S.D between Pre-test Scores of Control and Experimental Groups

Groups	N	Mean	S.D	't' Value
Control Group	25	48.6	4.42	0.97
Experimental Group	25	49.2	5.14	

No significant for two tailed test

The calculated 't'- value is lower than that of tabulated value for two tailed test, hence it is not significant.

Inferences drawn are

1. The control group and experimental group were not significantly differed in their pre-test scores. Both the groups have more or less same scores in terms of their achievement in physical science at entry level.
2. It shows the homogeneity of the two groups in terms of their knowledge with reference to physical science.
3. Hence the null hypothesis that there is no significant difference between the pre-test scores of control group and experimental group is accepted.

Analysis of Post-Test Mean Scores of Control and Experimental Groups

The significance of difference between the post-test mean scores of control group and experimental group is shown in table-2.

Table 2: Mean and S.D between Post-Test Scores of Control and Experimental Groups

Groups	N	M	S.D	't' Value
Control Group	25	52.5	6.10	9.65
Experimental Group	25	77.2	8.28	

The calculated 't' value is higher than that of tabulated value and significance at 0.01 level for two - tailed test, hence it is significant.

Inferences drawn are
1. The experimental group and control group differed significantly in their post-test.
2. The performance of the experimental group is higher than that of the control group.
3. The significance of difference is attributed due to adoption of stress reduction strategies i.e. Time management which exposed by experimental group students.

The hypothesis that there is significant difference between post- test of control group and experimental group is thus accepted. Hence, the adoption of time-management strategy has significant effect in learning physical science among the B.Ed., trainees.

Data Analysis of the Control Group

In this pre and post-test performance is being compared the significant difference between mean scores of the pre-test and post- test performance was found by using 't' test. Table-3 shows that the comparison between pre-test and post- test performance of the control group.

Table 3: Mean and S.D between Pre-test and Post-test Scores of the Control Group.

Tests	N	Mean	S.D	't' Value
Pre test	25	48.6	4.42	7.8
Post test	25	63.7	7.30	

It is seen that the calculated 't' value is higher than that of the tabulated value for two tailed test. Hence it is significant.

Inferences drawn are
1. The control group differs in its pre - test and post- test performance.
2. The post-test performance of the control group is higher than pre- test.
3. The mean value of the pre-test and post-test of control group are significant.

Hence the hypothesis that there is significant difference between the pre and post-test scores of the control group is accepted.

Data Analysis of Experimental Group

In this scores of the pre-test and post-test of the experimental group were compared. The significant difference between the mean scores of pre-test and post-test performance is found by using 't' test.

Pre-Test and Post-Test Scores of Experimental Group

The significance of difference between the pre-test and post-test mean scores of the experimental group is shown in the table- 4.

Table- 4 Mean and S.D between Pre-test and Post-test Scores of the Experimental Group

Tests	N	Mean	S.D	't' Value
Pre-Test	25	49.2	5.14	
Post-Test	25	77.2	8.07	7.13

The calculated 't' value in experimental group is higher than that of the tabulated value for two tailed test. Hence it is significant.

Inferences drawn are

1. The experimental group differs in its pre-test and post-test scores.
2. The experimental group is higher in the post-test scores than the pre-test scores.
3. The higher achievement in the post-test scores of experimental group is due to adoption of time-management strategy and learnt physical science better.
4. Hence, the hypothesis, that there is significant difference between pre-test and post-test scores of experimental group is accepted.

Table – 5 Significance of Difference Between of Pre-test and Post-test mean scores of the Experimental Group in terms of Gender, Place of Stay and Educational Qualification

S. No.	Variables		No. of Trainees	Mean		S.D.		'r'	't'	Level of Significance
				Pre test	Post test	Pre test	Post test			
1	Gender	Male	11	43.51	75.17	6.83	10.93	0.45	4.00	
		Female	14	44.06	76.65	6.06	9.85	0.5	10.76	S
2	Place of Stay	Hostel	15	45.23	72.8	5.98	11.32	0.7	4.06	
		Day scholar	10	46.26	73.46	6.69	9.4	0.28	7.37	S
3	Educational Qualification	U.G	16	42.45	70.23	6.43	10.23	0.7	6.3	S
		P.G	9	44.52	74.31	6.2	11.30	0.6	11.4	S

Significant at 0.05 level

Mean, S.D and 't' value of Pre and Post assessment scores on Stress

The calculated 't' value 4.00 is greater than the theoretical value of 1.96 at 0.05 level. So there is significant mean difference between the pre and post assessment scores of male B.Ed., trainees on stress. Hence the hypothesis is accepted. The calculated' value 10.76 is greater than the theoretical value of 1.96 at 0.05 level. So there is significant mean difference between the pre and post assessment scores of female trainees on stress. Hence the hypothesis is accepted. The calculated 't' value 4.06 is greater than the theoretical value of 1.96 at 0.05 level. So there is significant mean difference between the pre and post assessment scores of secondary teacher trainees on Stress. Hence the hypothesis is accepted. The calculated 't' value 7.37 is greater than the theoretical 't' value of 1.96 at 0.05 level. So there is significant mean difference between the pre and

post assessment scores of dayscholars on stress. Hence the hypothesis is accepted. The calculated 't' value 6.3 is greater than the theoretical' value of 1.96 at 0.05 level. So there is significant mean difference between the pre and post assessment scores of male B.Ed., trainees on stress. Hence the hypothesis is accepted. The calculated 't' value 11.4 is greater than the theoretical 't' value of 1.96 at 0.05 level. So there is significant mean difference between the pre and post assessment scores of U.G and P.G.

Discussion

Adopting certain stress reduction strategies are effective for the B.Ed., trainees. It improves their learning aptitudes towards physical science and make the students to achieve good marks in physical science subject. These strategies may develop the B.Ed., trainees self - confidence, and solving the problems without any fear, or tension. These strategies can be used in any setting convenient to the learner's according to their own pace of learning. Comparison of pre-test scores of both the experimental and the control group by applying appropriate statistical analysis reflected that there was no significant difference between the two groups at the entry level and both the groups were almost equal with their learning abilities. The experimental group performed significantly better than the control group at post-test. The difference between the post-test mean scores of the two groups were significant. The secondary teacher trainees of experimental group at post test have significantly improved their achievement in physical science while adopting as time management strategy.

Conclusion

Good time management is a critical element of effective stress reduction strategy. Time management is the best tool for reducing stress. The knowledge about stress reduction strategies of trainees may act as basic information for developing a sound education programme. It is necessary for the educational system to understand the stress reduction strategy that affect learning process among adolescent in order to develop tension free education in College of Education. On the whole the identified stress reduction strategies are more effective as in learning process for the B.Ed., trainees. Procrastination is a thief of time. Because in stress reduction strategies, the students are provided the opportunities of learning and to learn on their own speed and ability without stress or depression. They concentrated freely about the subject to learn and achieve better and the performance of the B.Ed., trainees can also be improved significantly through this investigation, by making use of time management during their study and leisurely, reduced the stressful situation and make them to concentrate more on the subject and achieve good marks. By using the time-management techniques in this section, we can improve our ability to function more effectively – even when time is tight and pressures are high.

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