



EFFECT OF TREATMENT, INTELLIGENCE AND THEIR INTERACTION ON ACADEMIC ACHIEVEMENT AMONGST GRADE XI STUDENTS

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Introduction

The educational process includes teaching learning process which acts as a platform for learning. It is a concern of how the class is analyzed and synthesized and the manner in which instruction is applied. For applying effective online instruction the instructor must needs to know how the technological based tools will be implement, how to manage traditional communication into technology dependent communication, and how to deviate from traditional class and connect the directions of conversations to all those, who can facilitate and guide the learning process amongst students who are interested and engaged in the task.

Academic achievement in science depends on the conceptual knowledge, facts and concepts of science. Good academic achievement is one of the benchmark for any institution. Information and Communication Technology (ICT) can create a Theoretical Background 13 flexible yet friendly learning environment for academic achievement of science. Wiki space through self-regulation can assist in developing skills like systematic reading, writing and thinking. But how far wiki-space enabled self-regulated learning could enhance science academic achievement needs to be investigated.

Moreover, which of factors (Intelligence, Achievement Motivation, Scientific Aptitude, Social Intelligence and Self-Concept) interacting with wiki-space can influence the academic achievement in science needed to be found out. Wiki space intends to provide the learner a podium, to self-regulate free from any influence, helping them to develop thinking process and their communication in science.

Objective of the study

Effect of Treatment, intelligence and their interaction on Academic achievement of learners by taking pre-academic achievement scores as covariate

Hypotheses of study

There is no significant effect of Treatment, Intelligence and their interaction on Academic Achievement of learners by considering Pre Academic Achievement as covariate.

Sample of the study

In this study the Senior Secondary schools of Banasthali, Rajasthan was considered as the population of the study. From these senior secondary schools one of senior secondary school of Banasthali, Rajasthan was randomly selected for the study.

Tool for the study

The Group Test of Intelligence includes eight sub tests. These subtests include 135 items under eight sub-tests are i. e. Following directions - 9 ii. Classification - 20, iii. Analogies - 20, iv. Arithmetic Reasoning – 6, v. Vocabulary40, vi comprehension - 8, vii Series -12 and viii Best Answer - 20.

Data analysis method

For studying the effect of Treatment, Intelligence and their interaction on Academic Achievement of learners by considering Pre-Academic Achievement as co-variate, 2×2 Factorial design ANCOVA was used

EFFECT OF TREATMENT, INTELLIGENCE AND THEIR INTERACTION ON ACADEMIC ACHIEVEMENT OF LEARNERS BY TAKING PRE-ACADEMIC ACHIEVEMENT AS COVARIATE

The objective was to study the Effect of Treatment, Intelligence and their interaction on Academic Achievement of students by taking their Pre-Academic Achievement as covariate. There were two levels of Treatment namely, WSL Programme and Conventional Method. On the basis of Intelligence, the Learners

were divided into two levels namely, Above Average Intelligence and Below Average Intelligence. Thus the data were analysed with the help of 2×2 Factorial Design ANCOVA where Pre-Academic Achievement was taken as covariate. The results are given in Table 4.1.

Table - Summary of 2×2 Factorial Design ANCOVA for Academic Achievement of Students by considering Pre-Academic Achievement as Covariate.

Table

SOURCE OF VARIANCE	df	SS y.x	MSS y.x	F y.x - value
Treatment (A)	1	834.72	834.72	5.40**
Intelligence (B)	1	86.62	86.62	0.56
A × B	1	46.96	46.96	0.30
Error	73	11279.82	154.52	
Total	77			

**Significant at 0.05 level

Effect of Treatment on Academic Achievement of Learners by taking Pre-Academic Achievement as covariate

From Table 4.1, It can be seen that the adjusted F-value for treatment is 5.40 which is significant at 0.05 level with $df = 1/73$. It indicates that the adjusted mean score of Academic Achievement of Learners taught through WSL Programme and Conventional Method when Pre-Academic Achievement was taken as covariate differed significantly. So there was a significant effect of Treatment on Academic Achievement of Students when Pre-Academic Achievement was taken as covariate. Thus, the Null Hypothesis that there is no significant effect of Treatment on Academic Achievement of Learners when Pre-Academic Achievement was taken as covariate is rejected. Further the adjusted mean score of Academic Achievement of WSL Programme Group is 59.73 which is significantly higher than those of Conventional Method Group whose adjusted mean score of Academic Achievement is 50.77. Thus, it may be said that the WSL Programme was found to be significantly superior to Conventional Method when Pre-Academic Achievement was taken as covariate.

Effect of Intelligence on Academic Achievement of Learners by taking Pre-Academic Achievement as covariate

The adjusted F-value for Intelligence is 0.56 (vide Table 4.1) which is not significant. It indicates that the adjusted mean scores of Academic Achievement of learners belonging to Above Average Intelligence as well as Below Average Intelligence did not differ significantly when Pre-Academic Achievement was taken as covariate. So there was no significant effect of Intelligence on Academic

Achievement of learners when Pre-Academic Achievement is taken as covariate. In this light, the null hypothesis that there is no significant effect of Intelligence on Academic Achievement of learners when Pre-Academic Achievement is taken as covariate is not rejected. It may therefore, be said that Academic Achievement of learners was found to be independent of Intelligence when Pre-Academic achievement is taken as covariate.

Effect of interaction between Treatment and Intelligence on Academic Achievement of Learners by taking Pre-Academic Achievement as covariate

The adjusted F-value for interaction between Treatment and Intelligence is 0.30 which is not significant (vide Table 4.1). It indicates that there was no significant effect of the resultant of interaction between Treatment and Intelligence on Academic Achievement of learners when Pre-Academic Achievement is taken as covariate. In light of this, the null hypothesis that there is no significant effect of interaction between Treatment and Intelligence on Academic Achievement of learners when Pre Academic Achievement is taken as covariate is not rejected. It may, therefore, be said that Academic Achievement was found to be independent of the interaction between Treatment and Intelligence when Pre-Academic Achievement is taken as covariate.

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