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OUTCOME OF ALTERNATIVE METHOD OF TEACHING PSYCHOLOGY ON PERFORMANCE AMONG COLLEGE STUDENTS

Dr. Geetha. A [1]

[1] Associate Professor, Department of Psychology, Maharani Cluster University, Palace Road, Bengaluru- 560001, Karnataka, India

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Corresponding Author

Dr. Geetha. A, geetha3hmt@yahoo.co.in

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ABSTRACT

The aim was to study the outcome of alternative methods of teaching Psychology on performance among college students. The sample consisted of females, aged between 19-21 years studying in degree Government College. A purposive sampling and before-after experimental-control group design was opted for the study. The sample were administered GHQ as a screening tool to rule out any recent psychopathology in the students. Students with below cut-off scores were administered an intelligence test and only students with average ability were selected for the study. Later on these students were administered digit span test and students with and above digit span of five were further considered for the study. After this the students were administered an objective pre-test on the topics related to psychology. Later the students were randomly divided into 2 groups of experimental and control group. The experimental group were exposed to one month of 4 days a week of alternative method of teaching including power point presentation, assignment submission, group discussion, seminar presentation, documentary screening, collecting material related from newspapers and internet, collage making, dumb sharads activity, pick and speak activity, interactive lecture, self-learning, using case studies, field visit etc. the control group was exposed to regular teaching method. After a month of exposure an objective post-test was done on both the groups. 't' test was conducted to determine the significant difference between mean scores of experimental and control group after the two teaching methods. The results indicated that experimental group had shown significantly better performance on objective test than control group. Such brief alternative methods can be part of the college programmes to promote better performance among students.

Keywords: Alternative Method of Teaching Psychology, College Students and Outcome

1. INTRODUCTION

Education, like almost every other area of our society, has evolved in leaps and bounds in recent years. Traditional teaching techniques, based mainly on a teacher explaining a topic and students taking notes, may still be useful on occasion, but education today revolves more around encouraging the student to awaken their curiosity and desire to learn. A number of different teaching techniques have emerged due to this change in education.

The term "alternative education" explains various approaches to teaching and learning other than methods provided by mainstream education often with innovative curriculum and a flexible programme of study which is based to a large extent on the individual student's interests and needs (Raywid (1988), Koetzsch (1997), Aron (2003), Carnie (2003).

There is comprehensive indication showing that the "deep conceptual understanding of complex concepts, and the ability to work with them creatively to generate new ideas, new theories, new products, and new knowledge" Sawyer (2006) is best achieved in complex social settings enabling processes that involve learners, tools and other people in the environment in activities in which knowledge is being applied. Traditional structures of schooling "make it very hard to create learning environments that result in deeper understanding" Sawyer (2006). Such findings provide support for the experiential, project-, problem-based and collaborative learning that many alternative teaching methods have been focusing on. In constructivist learning environments, students increase knowledge from a variety of sources beyond the teacher Greeno (2006). There is also proof that society's need for more integrated and usable knowledge is best met by more integrated and deeper (rather than broad) curricula, that are used by many alternative schools.

Hence one can teach students using many different methods including power point presentation, assignment submission, group discussion, seminar presentation, documentary screening, collecting material related from newspapers and internet, collage making, dumb sharads activity, pick and speak activity, interactive lecture, self-learning, using case studies, field visit etc. which will be effective and helpful for students and can be termed as alternative learning/education.

2. METHODOLOGY

The aim was to study the outcome of alternative methods of teaching Psychology on performance among college students. The objective was to study the outcome of alternative methods of teaching Psychology on performance (test) related to psychology among college students from experimental group; and to study the difference in performance between college students with exposure to alternative methods of teaching and regular teaching method on experimental and control group. It was hypothesised that there will be a positive impact/outcome on performance (test) related to psychology after exposure to alternative methods of teaching on experimental group; and that there will be a significantly better performance after intervention on experimental group than on control group without exposure to alternative methods of teaching. An alternative method of teaching was considered as an independent variable and Performance of the students on an objective test related to a topic of psychology was considered as a dependent variable. A purposive sampling was opted for the study. The sample selected for the study was female college students aged between 19-20 years studying in one Government College. Individuals regular up to 80% for alternative methods of teaching classes, with average intelligence and with digit span of 5 and above were included in the study. Individuals with above the cut off score of 6 on GHQ were not considered for the study. A before-after experimental-control group design was opted for the study.

3. TOOLS

1) **General Health Questionnaire** Goldberg and Hillier (1972)

   GHQ is a self-administered screening tool aimed at detecting those with psychological disturbances/distress. The responses are recorded on a four-point scale and are scored as zero-zero-one-one (0-0-1-1). The General Health Questionnaire (GHQ) has been used in many Indian and Western studies with adolescent samples within the age range 12 – 20 years (Dalal, 1989; D'Arcy and Siddique, 1984; Nandini, 1996; Rao, 1978; Sonpar, 1982). This scale was selected since it could be used for screening purpose.

2) **Standard progressive matrices** Raven (1956)

   Raven (1956) designed Standard Progressive Matrices (SPM) to assess as accurately as possible a person's present clarity of observation and level of intellectual development. The five sets (A, B, C, D, and E) of 12 problems constituting the standard matrices are arranged to assess the chief cognitive processes. The Standard Progressive Matrices (SPM) gives scores on sets A, B, C, D and E; total raw score, Grade percentile points, and interpretation in terms of level of intellectual development. Grades v, iv, iii, ii and I indicates that the individual is intellectually defective, definitely below average in intellectual capacity, intellectually average, definitely above the average in intellectual capacity, and intellectually superior respectively with reference to individuals of the same age group. The test has adequate test-retest reliability and internal consistency. The reliability of the Standard Progressive Matrices has been investigated in several studies. The Standard Progressive Matrices was selected for this study as is designed to assess a person's present clarity of observation and level of intellectual development.

3) **Digit span forward (Subtest of Bhatia's Battery of Intelligence Test)** Bhatia (1955)

   C.M. Bhatia's Battery of performance tests of intelligence has five subtests whereas one of the sub tests is digit span forward. In this test there are digits in increasing order of length to be read out by the examiner and the subject has to repeat in the same sequence. The reliability of the test by split-half and K-R 20 for Form A ranged from 0.87 to 0.95 and for Form B it varied between 0.91 and 0.93. The test was validated against parents and teacher's estimate of child ability. This test was used in the present study to assess the level of immediate memory and digit span of the individual.

4) **Performance test (Objective type) (Form A and B) (Devised for the study)**

   Two objective tests (Form A and B) in terms of multiple-choice questions each question carrying 1 mark with equal difficulty level was prepared related to the topic being taught for 2 types of teaching methods.

4. PROCEDURE

The sample of female college students were administered GHQ as a screening tool to rule out any recent psychopathology in the students. Students with below cut-off scores were administered an intelligence test and only students with average ability were selected for the study. After this on these students were administered digit span test and students with and above digit span of five were further

considered for the study. Later the students were administered an objective pre-test of 50 marks on a topic related to psychology. Finally, the students were randomly divided into two groups of experimental and control group. The experimental group were exposed to one month of 4 days a week of alternative methods of teaching including power point presentation, assignment submission, group discussion, seminar presentation, documentary screening, collecting material related from newspapers and internet, collage making, dumb sharads activity, pick and speak activity, interactive lecture, field visit etc. The control group was exposed to regular teaching method. After a month of exposure an objective post-test was done on both the groups. 't' test was conducted to determine the significant difference between experimental and control group after the two teaching methods.

5. ANALYSIS OF RESULTS

The results were analysed using 't' test to study significance of difference in the means of the performance (test) related to psychology between the experimental and control group before and after the two teaching methods.

6. RESULTS

The aim was to study the effect of alternative methods of teaching Psychology on performance among college students. The results were analysed using t test to study significance of difference in the means of the performance between the experimental and control group before and after the two teaching methods.

It was seen that of the total 103 students only 93 had consent to be part of the study, of which 7 students had scores above cutoff on General Health Questionnaire, and 15 students had either above average or below average intelligence on Standard Progressive Matrices, and 12 students had digit span below 5. So, of the 79 students 40 were randomly considered as experimental group and 39 were considered as control group. With 7 students not being regular for classes and 6 not being able to complete the post assessment the total number of students in experimental and control group were 34 and 31 respectively (Table 1).

Table1

Table 1 Process of Sample Participation

Sl	Process of sample participation	No. of
1	Total number of students willing to be part of the	93/103
2	No. of students above cut off point on GHQ	7
3	No. of students with below or above average IQ	15
4	No. of students with digit span below 5	12
5	No. of students incomplete in post assessment	3
6	No. of students not regular for classes	5
7	No. of students incomplete in post assessment	6

Table 2

Table 2 Showing the Demographic Details of The Group

Sl no.	Categories	Experimental (34)	Control (31)
1	Age		
	19-20 years	18	15
	20-21 years	16	16

2	Education		
	Pursuing B.A degree course	34	31
3	Type of family		
	Nuclear family	22	19
	Joint family	12	11
4	Category		
	SC/ST	03	04
	OBC	25	23
	GM	06	04
5	Economic status		
	Middle	15	16
	low	19	15

The sample consisted of only female students Pursuing B.A degree course at a college and aged between 19 and 21 years, belong to nuclear and joint family and different economic status and categories (Table 2).

The mean scores of the performance (test- related to psychology) of the students from experimental and control group before the administration of the teaching method were 22 and 25 respectively and there was no significant difference ($t = 1.68$; $p>.05$) between the means of experimental and control group indicating that the groups were similar in performance before introducing any teaching method (Table 3).

Table 3

Table 3 Showing the Mean, SD and 'T' Values of Scores (Base Line Performance) and Post-Test for Experimental and Control Group

Group	Mean	SD	t value
Experimental pre	22	2.30	1.68
Control pre	25	2.75	
Experimental post	46	2.41	2.68*
Control post	32	5.75	
Control pre	25	2.75	1.99
Control post	32	5.75	
Experimental pre	22	2.30	8.76**
Experimental post	46	2.41	

** significant at .01 level

* Significant at .05 level

The mean scores of the performance of the students from control group before and after the regular method of teaching were 25 and 32 respectively and there was no significant difference ($t = 1.99$; $p>.05$) between the means of control group before and after the regular method of teaching indicating that though the control group has improved in performance, it has not significantly improved (Table 3).

The mean scores of the performance of the students from experimental group before and after the alternative method of teaching were 22 and 46 respectively and there was significant difference ($t = 8.76$; $p<0.01$) between the means of

experimental group before and after the alternative method of teaching indicating that experimental group has improved significantly in its performance (Table 3).

The mean scores of the performance of the students from experimental and control group after the administration of the teaching method were 46 and 32 respectively and there was significant difference ($t = 2.68$; $p<0.01$) between the means of experimental and control group indicating that the experimental group where in the alternative method of teaching was provided improved significantly in their performance where compared to the control group where in the regular method of teaching was provided (Table 3).

So finally results indicate that experimental group was significantly better than control group after the experimental group was exposed to alternative method of teaching and control group exposed to the regular method of teaching indicating that the alternative method of teaching was better in improving the performance of the students than the regular method of teaching.

There have been many research studies on alternative methods of teaching for degree students. A study published in the Journal of Education and Learning by Shih and Chuang (2015) examined the effectiveness of the flipped classroom approach in teaching undergraduate students. The researchers found that students in the flipped classroom had better academic performance and higher levels of engagement than those in traditional lecture-based classes. Another study published in the Journal of Educational Technology and Society by Chen and Chen (2018) investigated the use of game-based learning in teaching computer science to undergraduate students. The researchers found that the use of game-based learning resulted in higher levels of engagement and motivation among students, as well as improved learning outcomes. A study published in the Journal of Interactive Learning Research by Roussou and Kallergis (2017) explored the use of virtual reality in teaching biology to undergraduate students. The researchers found that the use of virtual reality resulted in higher levels of engagement and increased understanding of complex biological concepts among students. A study published by Stains, Harshman, Barker, Chasteen, Cole, DeChenne-Peters and Levis-Fitzgerald (2018) examined the use of inquiry-based learning in teaching chemistry to undergraduate students. The researchers found that the use of inquiry-based learning led to higher levels of engagement and improved learning outcomes compared to traditional lecture-based instruction. These studies suggest that alternative methods of teaching, such as the flipped classroom, game-based learning, virtual reality, and inquiry-based learning, can be effective in improving engagement and learning outcomes among undergraduate students.

There are research studies on alternative methods of teaching psychology for degree students. A study published by Gok and Silber (2019) investigated the use of blended learning in teaching psychology to undergraduate students. The researchers found that the use of blended learning resulted in higher levels of engagement and better learning outcomes compared to traditional lecture-based instruction. Another study published in the Journal of Interactive Learning Research in 2019 by Cao and Zou (2019) examined the effectiveness of using interactive simulations in teaching psychology to undergraduate students. The researchers found that the use of interactive simulations resulted in higher levels of engagement, increased motivation, and better learning outcomes. A study published by Wu and Huang (2017) explored the use of case-based learning in teaching abnormal psychology to undergraduate students. The researchers found that the use of case-based learning led to improved understanding of the material, increased critical thinking skills, and higher levels of engagement among students. A 2018 study

published in the Journal of Instructional Psychology by Dawes and Zaniewski (2018) examined the use of peer-led teaching in a psychology course for undergraduate students. The researchers found that peer-led teaching resulted in improved learning outcomes and higher levels of engagement compared to traditional lecture-based instruction. These studies suggest that alternative methods of teaching, such as blended learning, interactive simulations, case-based learning, and peer-led teaching, can be effective in improving engagement and learning outcomes among undergraduate psychology students.

In the present study the group were exposed to alternative method of teaching Psychology including power point presentation, assignment submission, group discussion, seminar presentation, documentary screening, collecting material related from newspapers and internet, collage making, dumb sharads activity, pick and speak activity, interactive lecture, self-learning, using case studies, field visit etc. was significantly better in improving the performance of the students than the regular method of teaching.

7. CONCLUSIONS

The base line assessment of experimental and control group did not difference in its performance before different methods of teaching was introduced.

The results indicated that experimental group had shown significantly better performance on objective test than control group. Such brief alternative methods can be part of the college programmes to promote better performance among students. Alternative methods of teaching had a greater impact on performance of students than the regular method of teaching.

It would be advisable to use at least some alternative methods of teaching for students to improve their performance level at higher education level.

CONFLICT OF INTERESTS

None.

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REFERENCES

Aron, L.Y. (2003). Towards a Typology of Alternative Education Programs : a Compilation of Elements from the Literature, The Urban Institute, Washington, DC.

Bhatia, C. M. (1955). Performance Test of Intelligence Under Indian Conditions. New York, NY, US : Oxford University Press.

Cao, Y., and Zou, D. (2019). The Effectiveness of Interactive Simulations in Teaching Psychology to Undergraduate Students. Journal of Interactive Learning Research, 30(1), 49-65.

Carnie, F. (2003). Alternatives in Education - A Guide, Routledge Falmer, London.

Chen, Y. L., and Chen, Y. H. (2018). Using Game-Based Learning to Facilitate Computer Science Education : A Review of Literature. Journal of Educational Technology and Society, 21(2), 1-11.

Dawes, M. J., and Zaniewski, A. M. (2018). Using Peer-Led Teaching in a Psychology Course for Undergraduate Students. Journal of Instructional Psychology, 45(3-4), 154-164.

Gok, T., and Silber, K. H. (2019). Blended Learning in Teaching Psychology to Undergraduate Students : Using Technology to Enhance Learning Outcomes. Journal of Technology and Teacher Education, 27(1), 81-105.

Goldberg and Hillier (1972). The Scaled Version of General Health Questionnaire. Psycho Med. https://doi.org/10.1017/s0033291700021644.

Greeno, J. G. (2006). "Learning in Activity", in R.K. Sawyer (ed.), Cambridge Handbook of the Learning Sciences, Cambridge, New York, 79-96. https://doi.org/10.1017/CBO9780511816833.007.

Koetzsch, R. (1997). The Parents' Guide to Alternative Education, Shambala, Boston.

Raven, J. C. (1981). Manual for Raven's Progressive Matrices and Vocabulary Scale. San Antonia, Tx: Harcourt Assessment.

Raywid, M.A. (1988). "Alternative Schools: What Makes Them Alternative?" The Education Digest, 54(3), 11-12.

Roussou, M., and Kallergis, G. (2017). Virtual Reality in Education : The Future of Learning ? Journal of Interactive Learning Research, 28(3), 269-275.

Sawyer, R. K. (ed.) (2006). Cambridge Handbook of the Learning Sciences, Cambridge University Press, New York. https://doi.org/10.1017/CBO9780511816833.

Shih, J. L., and Chuang, H. H. (2015). An Exploration of the Flipped Classroom Approach and its Potential Use in Higher Education. Journal of Education And Learning, 4(4), 1-12.

Stains, M., Harshman, J., Barker, M. K., Chasteen, S. V., Cole, R., DeChenne-Peters, S. E., and Levis-Fitzgerald, M. (2018). Anatomy of STEM Teaching in North American Universities. Journal of Chemical Education, 95(6), 1036-1049. https://doi.org/10.1126/science.aap8892.

Wu, J. Y., and Huang, Y. M. (2017). The Use of Case-Based Learning in Teaching Abnormal Psychology to Undergraduate Students. Journal of Education and Training Studies, 5(8), 69-79.