

A study of the effect of examination stress on learning styles of students

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Examinations are held every year. Their deadlines, students' preparations for them, question papers and anticipation of results are stressful times. Optimal performance in examinations is essential. It also requires good physical and mental health to maintain one's level of motivation to do serious work in spite of multiple pressures. Though it is quite natural to feel some anxiety about examinations, inability to cope with anxiety and fear gives rise to sleepless nights, disturbed sleep patterns, rapid pulse rates, trembling hands, troubled thoughts, tiredness, irregular eating habits, and inability to concentrate. These conditions further intensify the feelings of stress. Some students use emotion focused coping styles while others adopt task focused coping styles. Right preparation for the examinations demands use of appropriate learning style to develop and exhibit one's academic as well as socio-emotional competence.

Preferred styles guide the way persons learn. They also change the way one internally represents experiences, the way one recalls information, and even the words one chooses. We learn using our preferred learning styles. Keefe (1979) defines learning styles as the "composite of characteristic cognitive, affective, and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment." Merrill (2000) argued that most students are unaware of their learning styles. Knowledge of one's learning styles can be used to increase self-awareness about their strengths and weaknesses as learners. This can help a student to meet stress inducing conditions related to examinations. There is little evidence for the efficacy of most learning style models. Findings of Coffield, Hall & Ecclestone (2004) suggest that matching students' learning-style preferences with instruction and the demands of the pattern of the question paper can improve academic achievement and student attitudes toward learning. Dunn, et al. (1995) suggested that matching students' learning-style preferences with educational interventions compatible with those preferences is beneficial to their academic achievement. It seems that examination stress experienced by students preparing for 10th class examination conducted by various boards can influence their learning styles differently.

Objectives of the study: The present study has been undertaken to achieve the following objectives of the study-

1. To find out whether boys differ from girls with regard to their learning styles.
2. To find out whether students experiencing different levels of examination stress differ from one another on learning styles.

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3. To explore whether the effects of examination stress on learning styles are different for boys and girls.

Hypotheses: The following hypotheses have been tested-

1. Boys do not differ from girls in their learning styles.
2. Students experiencing different levels of examination stress differ from one another on learning styles.
3. Effects of examination stress on learning styles are different for boys and girls.

Methodology:

Sample: Sample for this study consisted of 200 students studying in four schools of Allahabad city. It included 50 boys and 50 girls from schools associated with ICSE and CBSE Boards.

Tools used: Learning Style Inventory constructed by K.S.Misra was used for measuring the learning styles of students. It measures three learning styles namely- Reflective, Assimilative and Reproducing. It consisted of 22 items. Examination Stress Scale constructed by K.S.Misra was used for measuring examination stress among students.

Statistics Used: Two way Analysis of Variance with two levels of gender and three levels of examination stress has been used to analyze the data.

Results and discussion:

Table 1 Summary of the results of 2x3 ANOVA showing the effects of examination stress and gender on learning styles of students.

Source	Learning Style	df	Mean Square	F-ratio
A: Gender	Reflective	1	2.593	.077
	Assimilative	1	11.576	.592
	Reproducing	1	6.300	.656
B: Examination Stress	Reflective	2	204.814	6.058**
	Assimilative	2	16.697	.855
	Reproducing	2	58.250	6.063**
AxB	Reflective	2	28.945	.856
	Assimilative	2	1.117	.057
	Reproducing	2	0.794	.083
Error	Reflective	194	33.811	
	Assimilative	194	19.538	
	Reproducing	194	9.607	

** significant at .01 level

Observation of table shows that the main effects of gender on learning styles are not significant for the three learning styles namely, reproducing (.656, $p < .05$), assimilative (.592, $p < .05$) and reflective (.077, $p < .05$). This means that boys do not differ from girls in their learning styles. F-ratios for the main effects of examination stress on reflective, assimilative and reproducing learning styles are 6.058, .855 and 6.063 respectively. Two of them are significant at .01 level. They are for reflective and reproducing learning styles. Further analysis was done by calculating t-ratios. Results

given in table 2 show that students experiencing low stress adopt more reflective learning style than those experiencing moderate or high examination stress while students experiencing moderate and high examination stress do not differ from one another on using reflective learning style. The values of significant mean differences for reproducing learning style show that as compared to students experiencing high stress, those experiencing moderate or low examination stress use less reproducing learning style while students experiencing low and moderate examination stress do not differ in the use of reproducing learning style. F-ratios for the interaction effects of gender and examination stress on reflective, assimilative and reproducing learning styles are .856, .057 and .083 respectively. All of them are not significant at .05 level. This reveals that the effect of interaction between gender and examination stress is not significant. So, it can be inferred that the effects of examination stress on various learning styles are the same for boys as well as girls.

Table 2 Means for and mean differences between students experiencing different levels of examination stress on various learning styles.

Learning style	Group code	Level of Examination stress	Mean	Groups compared	Mean difference
Reflective	H	High	16.375	L & M	3.259**
	M	Moderate	15.256	L & H	4.648**
	L	Low	11.727	H & M	1.119
Reproducing	H	High	8.000	L & M	1.193
	M	Moderate	6.508	L & H	2.685*
	L	Low	5.315	H & M	1.492*

*/** Significant at .05/.01 level

Results of this study have shown that examination stress can influence adoption of reproducing and reflective learning styles. Low examination stress facilitates adoption of more reflective learning style while high examination stress leads to adoption of more reproducing learning style. It means that high examination stress creates pressure for adoption of reproducing learning style which can develop a sense of more self confidence. Zeidner & Mathews (2005) found that how a student responds to or copes with examination stress is responsible for its negative impact. When students prepare themselves thoroughly for their examinations through planned compulsory revision in lessons and repeated examination practice using examination papers of previous years, the effect of anxiety related to examinations is reduced. So, it will positively reinforce adoption of more reproducing learning styles. Elliott and McGregor (1999) are of the view that a performance- avoidance goal is characterized by a fear of failure. Putwain and Deveney (2008) have found that performance- avoidance goal is strongly related to anger, shame and hopelessness than to anxiety. Students will naturally not prefer reflective learning styles as their mastery avoidance in terms of reflective thinking may not adversely affect their performance in the board examinations.

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