EFFECT OF SELF-EFFICACY ON ABILITY IN LEARNING OF HIGHER SECONDARY STUDENTS

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Abstract : The present study was constructed to inquire the effect of self-efficacy on ability in learning of higher secondary schools students in West Bengal. The study population consists of all higher secondary schools in West Bengal. The sample for the present investigation is made by selecting almost 743 higher secondary school students using the random sampling method from the target population. A. K. Singh and Shruti Narain self-efficacy scale and self made ability in learning scale for students are used to collect the data. Mean, standard deviation, t-test, analysis of variance have been used by the researchers for analysing and interpretation of data. The study showed that, no significant effect of any level of self-efficacy (viz. low, moderate and high) exists on the means of students' ability in learning.

IndexTerms **- Ability in Learning** and **Self-efficacy.**

1: Introduction:

Social Cognitive Theory (Bandura, 1977) is one of the most important theories to describe learner behaviour. This Theory indicate that a blend of internal self-influence factors and external social systems motivate and control behaviour (Bandura, 2012; Schunk & Pajares, 2002). Self-efficacy refers to a person's judgement of their capabilities to arrange and implement courses of action compulsory to achieve required performances (Bandura, 1997). Ability is a relatively internal and stable factor over which the learner does not exercise much direct control. Ability is the vital personal causes of success and failure (Heiders, 1958). Ability is classified as stable internal factor and it is consistent and stable while effort is unstable and changes. Sharma et al. (2011) introduced that one of the most significant concerns of education is to certify that the child is capable to make use of most of his abilities and capabilities to accomplish to his maximum level. Asthana (2011) focused that mental ability plays important role in academic achievement of the students. Spinatha (2006) suggested that general cognitive ability is the strongest and only predictor on academic achievement. Self-efficacy has been studied different psychological disciplines, such as sporting skill and performance (Owen & Froman, 1988), work-related behaviour (Stajkovic & Luthans, 1998), and academic performance (Pintrich & DeGroot, 1990; Robbins, Lauver, Le, David, & Langley, 2004). Self-efficacy is an individual's confidence in his or her own ability to complete a task (Gist & Mitchell, 1992; Schunk, 1995). It has been generally recognized that self-efficacy, which is the belief in one's ability to successfully perform a task and plays an important role in learning (Amil 2000; Bandura 1986; Liem, Lau & Nie 2008; Loo & Choy 2013; Pajares 2000; Schunk 1991; Williams & Takaku 2011). Locke and Latham (1990), Pajares and Kranzler (1995), Gahungu (2007), Lew and Park (2015) shows that significant relationship exist between self-efficacy and ability. According to Pajares (2000) learner's self-efficacy influences his or her academic performance. A number of researchers e.g. Margolis & McCabe 2004, 2006; Pajares 2006 have pointed out that without adequately high beliefs that they have the ability to be successful, many struggling students will not put in the effort essential to attain success in academic tasks.

1.1: Objectives of the study:

- To find out the effect of self efficacy on ability in learning of higher secondary school students.
- To differentiate students self efficacy according to gender.
- To differentiate the students ability in learning according to gender.

1.2: Hypotheses of the study:

$H_0$1: There is no significant effect of self-efficacy on ability in learning of higher secondary students.
$H_0$2: There is no significant difference between boys and girls self-efficacy in learning of higher secondary students.
$H_0$3: There is no significant difference between boy's and girls' ability in learning of higher secondary students.

2. Methodology of the study:

2.1. Variables

2.1.1: Major variables: Students Self-Efficacy and Students Ability in learning.
2.1.2: Categorical variables: Gender (Boys and Girls)

2.2. Population

All the Higher secondary school students in West Bengal under West Bengal Board of Higher Secondary Education (W.B.C.H.S.E) are the population in the study.

2.3. Sample and sampling procedure

For the present study the researcher was used random sampling method for data collection. Data for this preliminary analysis were collected from 743 high school students attending four different high schools in West Bengal. There were 388 (52.2%) males and 355 females (47.8%).

2.4. Tools of the study

In this research, the researcher had used two types of tools i.e.-

- To measure the student's self-efficacy the researcher has been using 'self-efficacy scale' which is developed by A. K. Singh and Shruti Narain. In the present study researcher developed Bengali version self-efficacy scale (BSES) and the reliability of the scores was computed by using Cronbach"s Alpha and was found to be 0.777.

- In this study to measure student's ability in learning, the researcher developed ability in learning scale (SAL) for students. This scale has 28 items; these items were in five dimensions of student's ability in learning i.e. interpersonal skill, ability to work independently, engagement in learning and students motivation. Reliability of the scale was computed by Cronbach's Alpha through SPSS 22.0 version and the reliability was found 0.861.

3. Analysis and interpretation:

3.1: Testing hypotheses $H_0$1

$H_0$1: There is no significant effect of self-efficacy on ability in learning of higher secondary students.

Table: 3.1: BSES level wise descriptive statistics of SAL

Variable	Level of BSES	N	Mean	Std. Deviation	Std. Error
Ability in Learning	Low	263	100.03	14.082	0.868
	Moderate	253	99.07	13.77	0.865
	High	227	97.71	13.79	0.915
	Total	743	98.99	13.901	0.509

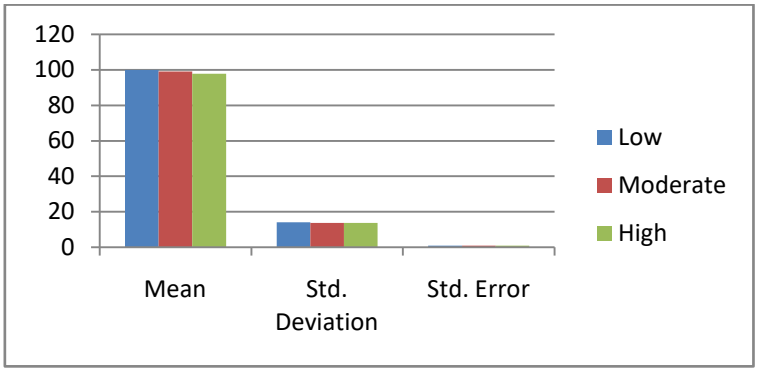

Figure: 3.1: BSES wise multiple comparison of SAL

Table: 3.2: Effect of BSES on SAL

		Sum of Squares	df	Mean Square	F	Sig.
Ability in Learning	Between Groups	259.256	2	129.628	1.493	0.225
	Within Groups	64244.892	740	86.817		
	Total	64504.148	742			

Table-3.2: depicts that the computed value of $F_{(2,740)} = 1.493$ and $p = 0.225$ which is higher than 0.05 ($p>0.05$). Hence, it should be taken as not significant at 0.05% level of significance. Consequently we have to not rejecting the null hypothesis. Thus, no significant effect of any level of self-efficacy (viz. low, moderate and high) exists on the means of students' ability in learning. Table-3.1 shows that the mean of low level of self-efficacy (100.03) is more than mean of moderate level (99.07) and mean of

high level (97.71). The table also shows that the mean of moderate level of self-efficacy (99.07) is higher than mean of high level self-efficacy (97.71). The mean difference of self-efficacy level according ability in learning is presenting in figure: 3.1.

3.2: Testing hypotheses $H_0$2:

$H_0$2: There is no significant difference between boys and girls self-efficacy in learning of higher secondary students.

Table: 3.3: Descriptive Statistics of BSES

Variable	Gender	N	Mean	Std. Deviation	Std. Error Mean
Self-Efficacy	Male	388	63.985	9.124	0.463
	Female	355	61.096	7.804	0.414

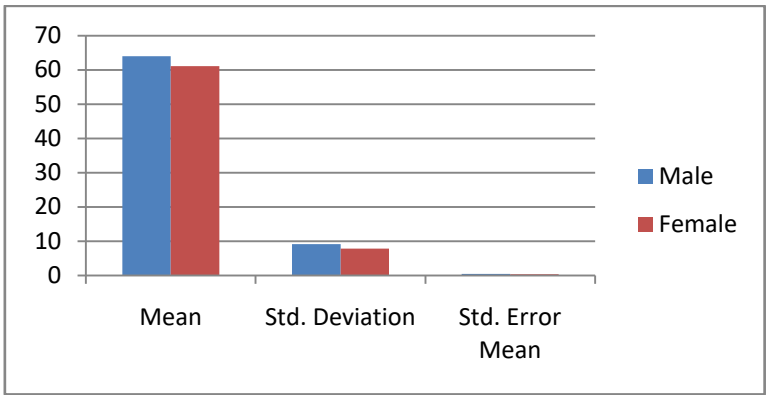

Figure: 3.2: Multiple comparison of BSES _ Gender

Table: 3.4: Independent sample test of BSES_ Gender

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Self-Efficacy	Equal variances assumed	12.351	0.000	4.617	741	0.000	2.8888	0.6257
	Equal variances not assumed			4.649	737.70	0.000	2.8888	0.6214

While to compare the male and female self-efficacy, it is seen from the analysis of table 3.4 that in case of Levene's test for equality of variances the p value is 0.000, which is less than 0.05 ($p<0.05$) so, homogeneous variance cannot be assumed. Table 3.4 also shows that in case of self-efficacy between male and female high secondary school students the calculated $t_{(737.70)}$ value is 4.649 and 'p' value is 0.000, which is less than 0.01 ($p<0.01$). Hence, 't' is significant at 0.01 level and $H_0$3.2 is rejected. So, male students are significantly different from female students in respect to self-efficacy. In that context of mean scores (table-3.3), it was found that the mean scores of male students self-efficacy (63.985) is higher than the female students self-efficacy (61.096). It is concluded that male students have better self-efficacy than the female students.

3.3: Testing hypotheses $H_0$3:

$H_0$3: There is no significant difference between boy's and girls' ability in learning of higher secondary students.

Table: 3.5: Descriptive statistics of SAL_ Gender

Variable	Gender	N	Mean	Std. Deviation	Std. Error Mean
Ability in Learning	Male	388	92.363	12.085	0.613
	Female	355	106.250	12.016	0.637

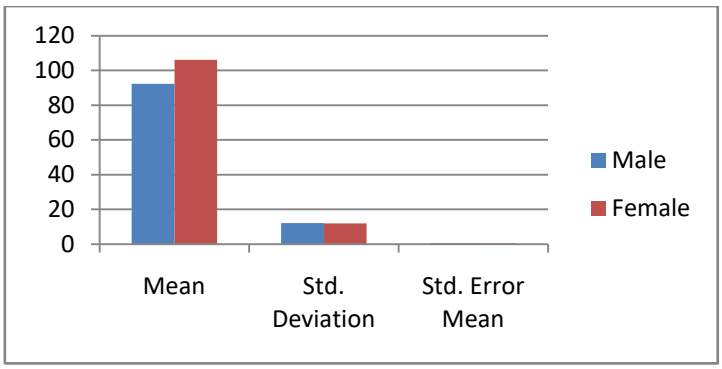

Figure: 3.3: Multiple comparison of SAL _ Gender

Table: 3.6: Independent sample test of SAL_ Gender

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Ability in Learning	Equal variances assumed	0.636	0.425	-15.689	741	0.000	-13.887	0.8851
	Equal variances not assumed			-15.693	735.893	0.000	-13.887	0.8849

While to compare the male and female ability in learning, it is seen from the analysis of table 3.6 that in case of Levene's test for equality of variances the p value is 0.425, which is higher than 0.05 ($p>0.05$) so, homogeneous variance can be assumed. Table 3.6 also shows that in case of ability in learning between male and female high secondary school students the calculated $t_{(741)}$ value is -15.689 and 'p' value is 0.000, which is less than 0.01 ($p<0.01$). Hence, 't' is significant at 0.01 level and $H_0$3.3 is rejected. So, male students are significantly different from female students in respect to ability in learning. In that context of mean scores (table- 3.5), it was found that the mean scores of male students ability in learning (92.363) is lower than the female students ability in learning (106.250). It is concluded that female students have better ability in learning than the male students.

4. Major findings:

- On the basis of self-efficacy the study shows that no significant effect of any level of self-efficacy (viz. low, moderate and high) exists on the means of students' ability in learning. The study also indicated that according student's ability in learning, the mean of low level of self-efficacy (100.03) is more than mean of moderate level (99.07) and mean of high level (97.71) but the mean of moderate level of self-efficacy (99.07) is higher than mean of high level self-efficacy (97.71).

- According to gender the study found that male students are significantly different from female students in respect to self-efficacy. In that context of mean scores, it was found that the mean scores of male student's self-efficacy (63.985) are higher than the female student's self-efficacy (61.096). It is concluded that male students have better self-efficacy than the female students.

- The male students are significantly different from female students in respect to ability in learning. In that context of mean scores it was found that the mean scores of male student's ability in learning (92.363) is lower than the female student's ability in learning (106.250). It is concluded that female students have better ability in learning than the male students.

Conclusion:

Previous research like Fisher & Ford (1998) Greene & Miller (1996), (Harackiewicz, Barron, & Elliot), Pintrich & Garcia (1991) attention on the amount of effort put forward by individuals with different levels of learning. Students with high learning tend to follow challenging and difficult task content. High ability students have the capabilities to do well on difficult tasks and

consequently are expected to high levels of self-efficacy. On the other hand, Low ability students can be expected to do especially badly on difficult tasks, so they are leading to lower levels of self-efficacy. Locke and Latham (1990), Pajares and Kranzler (1995), Shun and Roeser (2002), Gahungu (2007), Lew and Park (2015) shows a clearer relationship exist between ability and self-efficacy. The present study shows that on the basis of self-efficacy no significant effect of any level of self-efficacy (viz. low, moderate and high) exists on the means of students' ability in learning. This findings not supported by the findings of Locke and Latham (1990), Pajares and Kranzler (1995), Shun and Roeser (2002), Gahungu (2007), Lew and Park (2015).They argue that performance orientation characteristically leads to more positive outcomes for low ability students and more negative outcomes for high ability students. So, they concluded that a different pattern may come out with self-efficacy. In view of the fact that low ability students usually make more mistakes and show lower levels of performance. Consequently, high ability students generally make fewer mistakes and perform better. The study also indicated that according student's ability in learning the mean of low level of self-efficacy is more than mean of moderate level and mean of high level but the mean of moderate level of self-efficacy is higher than mean of high level self-efficacy. This study will be helpful in all section of education system. The study helps to generate a basic concept about effect of self-efficacy on student's ability in learning. This proposed research work will help to improve the student's ability towards learning also.

References:

1. Amil, M., (2000). Self-efficacy and academic performance in economics in the junior college, Unpublished Thesis, Nanyang Technical University, Singapore.
2. Bandura, A., (1986). Social foundations of thought and action: A social cognitive theory, Prentice Hall, Englewood Cliffs.
3. Bandura, A., (1997). *Self-efficacy: The exercise of control*, W. H. Freeman and Company, New York.
4. Boakye, N.A., (2012). *A socio-affective approach to improving students' reading comprehension abilities*, PhD thesis, University of Pretoria, Pretoria.
5. Gahungu, O. N., (2007). The relationships among strategy use, self-efficacy, and language ability in foreign language learners. *Northern Arizona University*.
6. Hutchison, M.A., Follman, D.K. Sumpter, M. & Bodner, G.M., (2006). 'Factors influencing the self-efficacy beliefs of first-year Engineering students'. *Journal of Engineering Education*. 95(1), 39–47.
7. Lew, K. H. and Park, J. H., (2015). A Study on the Relation between Self-directed Learning and Self-Efficacy in High School Student. *Advanced Science and Technology Letters.* Vol.92 (Education 2015), pp.164-167.
8. Liem, A.D., Lau, S. & Nie, Y., (2008). The role of self-efficacy, task value and achievement goals in predicting learning strategies, task disengagement, peer relationship and achievement outcome. *Contemporary Educational Psychology* 33, 486–512. http://dx.doi.org/10.1016/j.cedpsych.2007.08.001
9. Locke, E. A., & Latham, G. P., (1990). *A theory of Goal setting and Task Performance*, Prentice Hall, Upper Saddle River, N.J
10. Margolis, H. & McCabe, P., (2004). Self-efficacy: A key to improving the motivation of struggling learners, *The Clearing House* 77(6), 241–249.
11. Mills, N.A., Pajares, F. & Herron, C., (2007). Self-efficacy of college intermediate French students: Relation to achievement and motivation. *Language learning.* 57(3), 417–442.
12. Mizumoto, A. & Takeuchi, O., (2009). Examining the effectiveness of explicit instruction of vocabulary learning strategies with Japanese EFL university students. *Language Teaching Research.* 13(4), 425–449.
13. Mizumoto, A., (2012). Exploring the effects of self-efficacy on vocabulary learning strategies. *Studies in Self-Access Learning Journal*.3(4), 423–437.
14. Pajares, F., & Kranzler, J., (1995). Self-efficacy beliefs and general mental ability in mathematical problem-solving. *Contemporary Educational Psychology*, 20, 426-443.
15. Pajares, F., (2000). Self-efficacy beliefs and current directions in self-efficacy research'. Retrieved from, http://www.uky.edu/~eushe2/Pajares/effchapter.html
16. Schunk, D.H. & Rice, J.M. (1991). 'Learning goals and progress feedback during reading comprehension instruction'. *Journal of Reading Behaviour*. 23, 351–364.
17. Schunk, D.H. & Swartz, C.W., (1993). 'Goals and progress feedback: Efforts on self-efficacy and writing achievement'. *Contemporary Educational Psychology*. 18, 337–354.
18. Schunk, D.H., (1991). Self-efficacy and academic motivation'. *Educational Psychologist* 26, 207–231. http://dx.doi.org/10.1207/s15326985ep2603&4_2.