

# Creating Learner – Centric Environment For Enhancing Learner’s Potential Through Innovative Teaching Pedagogies: An Analytical Approach Towards Diversity Of Learners

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**Abstract:** Diversity here refers, that the learners come from different socio – economic backgrounds and cultural backgrounds, with different learning styles, learning and physical disabilities, where special and equal attention to be given for expanding their learning abilities. **Objectives / Background:** Teaching methods and understanding learner’s style plays a vital role to enrich learner’s potential. To grab the attention of learners, VARK strategy has been proposed in the research study. They are (i) **Visual Strategy:** The learners use graphs, charts, symbols, colors, etc., to learn; (ii) **Aural Strategy:** The learner’s best learn through conversing, recorded information and discussions; (iii) **Read / Write Technique:** The diagrams, charts and graphics are organized into statements for a deeper understanding; (iv) **Kinesthetic Strategy:** Ideas are illustrated and summarized through real life examples and case studies. Pedagogy refers to the instructional approach that relates to interaction between teacher, student, learning environment and learner’s task. Praxis is a core pedagogical approach that incorporates constructivism, inquiry based approach, reflective approach, collaborative and integrative approaches to create learner centric environment. **Methods:** A quantitative research approach of the data collection was adopted using a questionnaire. 230 respondents have given their inputs to progress my study. Stratified random sampling method was employed. Analysis for the study was performed with

*Correlation, Chi Square, Multiple Regression and Factor Analysis. Findings: Based on the results, the teaching methods and learning styles has a positive impact on improving learner's ability & their performance, as it builds the learner's curiosity about learning something new. Applications / Improvements: Learner's can also enrich their knowledge to discover, design, and re - design knowledge and ideas related to their needs.*

**Keywords:** *Diversified learners, Teaching methods, Learner's styles, Learner's attention, Interactive environment, Knowledge enrichment*

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### **INTRODUCTION:**

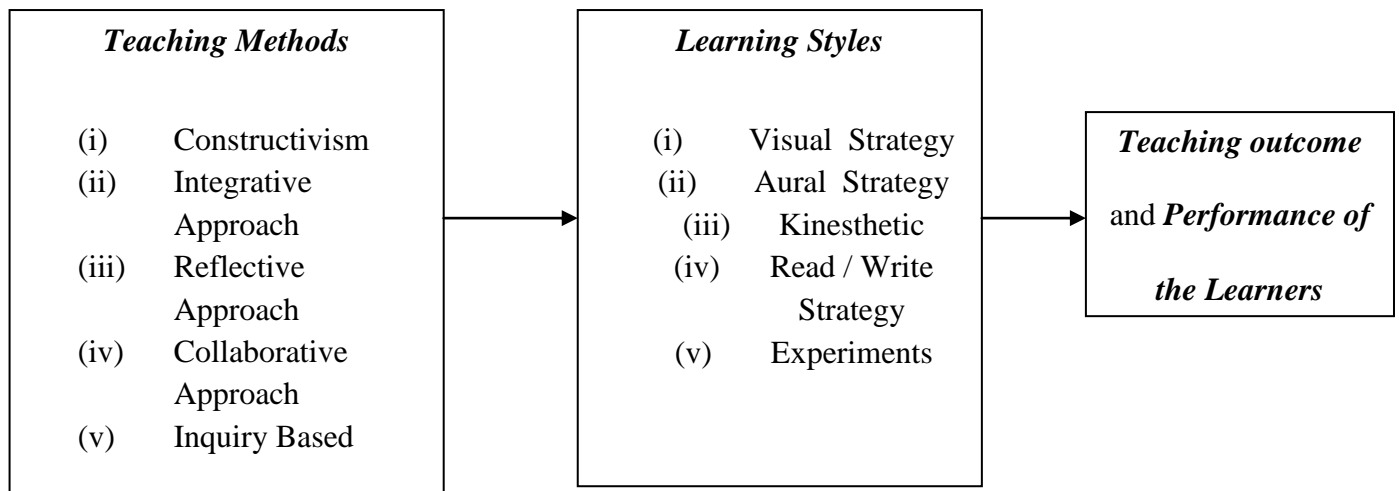
Teaching incorporates various methods to engage the learner's. Among that, first is, Constructivism, making meaning or ideas through prior knowledge and experience as learning is social and an active process. It is important to know the background of learners and not to judge them. The main motive is to discover what to be learned and unlearned, **Andang Suhendi and Purwarno, (2018)<sup>1</sup>**. Some of the ways to promote constructivism are (i) Integrative Teaching which is an interdisciplinary learning, **Huffaker, D. (2003)<sup>2</sup>**. (ii) Reflective Teaching which analyzes the past experience to improve future learning, **Cinnamond, J. and Zimpher, N. (1990)<sup>3</sup>**. (iii) Collaborative Teaching is an approach for interacting among students and also among teacher's and learner's community, **Ashwell, T., Miyahara, M., Paydon, S. & Stewart, A. (Eds.) (2014)<sup>4</sup>**. (iv) Inquiry based approach is to raise queries or scenarios and engage the learner's to find a solution, **Kuhn, D; Pease, M (2008)<sup>5</sup>**. Second is, Integrative approach which aims on learning from real life situations where problem solving abilities are developed, **Awbrey, S.M, Dana, D., Miller, V.W., Robinson, P., Ryan, M.M. and Scott, D.K. (Eds.), (2006)<sup>6</sup>**. Third is, Reflective approach where every teacher uses their own practice and consider alternatives for achieving their

ends, *Lane, R., McMaster, H., Adnum J., and Cavanagh, M. (2014)*<sup>7</sup>. Some of the strategies of reflective approach are (i) Electronic Media, which allows learner's to reflect after teaching – learning process, *Yowell, Connie, and Diana Rhoten. (2009)*<sup>8</sup>. (ii) Drill & Practice Approach, *Watkins, M. W. (1989)*<sup>9</sup>. Fourth is, Collaborative Approach which is also termed as peer learning, collective learning, peer teaching or team learning. Learners work together towards a common goal, *Prince, M. (2004)*<sup>10</sup>. Some of the strategies are (i) Online Collaborative Learning is a reflection of current and future needs, *Chylinski, Manya (2011)*<sup>11</sup>. (ii) Jigsaw Method, where the learners interact, work independently towards a goal, develop listening, engage effectively to learn content, *Lestik, M., & Plous, S. (2012)*<sup>12</sup>. (iii) Think – Pair – Share Strategy, is a three stage process where first is pondering new ideas, second is comparing past and present knowledge and the third is knowledge taking & sharing, *Lyman, Frank*<sup>13</sup>. Fifth is Inquiry based approach where the learners acquire knowledge by formulating questions, investigation and understanding, *Voet, M., & Wever, B. D. (2018)*<sup>14</sup>. Some of the strategies are role plays, simulation games, mind mapping, concept cartoon and concept mapping.

### **RESEARCH GAP:**

The study looks at learner's knowledge, skill set and abilities, and the areas of teaching to be concentrated. The objectives will measure success and utility through learning and teaching factors. The paper outlines the relationship between teaching, methods of teaching, learning styles and potential of learner's. The findings have been presented along with the managerial implications, limitations and recommendations for future research.

**Fig 1: FIGURE SHOWING RESEARCH FRAMEWORK FOR THE STUDY**



**OBJECTIVES OF THE STUDY:**

1. To study the impact of teaching on learners attention in the context of their diversity
2. To study the teaching factors that influences on learners involvement
3. To study the areas of learning preferred by learners with respect to their age group
4. To suggest the effective measures of teaching the students for achieving the required level of understanding.

**RESEARCH METHODOLOGY:**

**Sample Size:** 230 inputs have been collected from the respondents through questionnaire for analysis where the respondents are both undergraduate and postgraduate teachers and students.

**Sampling Plan:** For purpose of the study, Stratified random Sampling was employed. Descriptive research design was used in compiling the study. Questionnaire asked for all

categories were in Five Point Likert Scale which comprises of both open ended & closed ended questions.

**Sampling Tools used in Research Study:** Parametric tests such as Correlation Analysis and Multiple Regression Analysis is used, Non - Parametric tests, Chi - Square Test is used and other test, Factor Analysis is used in this research study.

**HYPOTHESIS:**

1. **Ho:** There is no significant relationship between teaching methods & learners attention

**Ha:** There is significant relationship between teaching methods & learner's attention

2. **Ho:** There is no significant difference between teaching methods & learners involvement

**Ha:** There is significant difference between teaching methods & learner's involvement

3. **Ho:** There is no association between stages of learning concentrated by learners with respect to age group

**Ha:** There is association between stages of learning concentrated by learners with respect to age group

4. **Ho:** The teaching outcome is not predicted by learners potential & understanding

**Ha:** The teaching outcome is predicted by learners potential & understanding

**DATA ANALYSIS & INTERPRETATION:**

**Table 1:** Table Showing Gender of Respondents

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Valid Percentage</b>	<b>Cumulative Percentage</b>
Male	142	61.7	61.7	61.7
Female	88	38.3	38.3	100.0
<b>Total</b>	<b>230</b>	<b>100.0</b>	<b>100.0</b>	

**Inference:** From the above table, it is inferred that, out of 230 respondents, 142 respondents are male (61.74%) & 88 respondents are female (38.26%)

**Table 2:** Table Showing Age of Respondents

<b>Age</b>				
<b>Age</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Valid Percentage</b>	<b>Cumulative Percentage</b>
Below 25	99	43.0	43.0	43.0
25 – 35	80	34.8	34.8	77.8
Above 35	51	22.2	22.2	100.0
<b>Total</b>	<b>230</b>	<b>100.0</b>	<b>100.0</b>	

**Inference:** From the above table, it is inferred that, out of 230 respondents, 99 respondents are below 25 years of age (43 %), 80 respondents are between 25 - 35 (34.8%) & 51 respondents are above 35 years of age (22.2%)

**Table 3:** Table showing Learning styles preferred by learners

<b>Learning Styles</b>				
<b>Training areas</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Valid Percentage</b>	<b>Cumulative Percentage</b>
Visual Aids	28	12.2	12.2	12.2
Aural Aids	63	27.4	27.4	39.6
Kinesthetic	56	24.3	24.3	63.9
Read / Write Strategy	60	26.1	26.1	90.0
Projects / Assignments	23	10.0	10.0	100.0
<b>Total</b>	<b>230</b>	<b>100.0</b>	<b>100.0</b>	

**Inference:** From the above table, it is inferred that, out of 230 respondents, 28 people responded Learning areas preferred by learners as Visual Aids (12.2%), 63 people responded as Aural Aids (27.4%), 56 people responded as Kinesthetic (24.3%), 60 people responded as Read / Write Strategy (26.1%) & 23 people responded as Projects / Assignments (10%)

**Table 4:** Table showing Teaching methods adopted by mentors for learner centric orientation

<b>Teaching methods</b>				
<b>Parameters</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Valid Percentage</b>	<b>Cumulative Percentage</b>
Case analysis	69	30.0	30.0	30.0
Problem Solving skills	128	55.7	55.7	85.7
Role Plays	27	11.7	11.7	97.4
Simulation Games	6	2.6	2.6	100.0
<b>Total</b>	<b>230</b>	<b>100.0</b>	<b>100.0</b>	

**Inference:** From the above table, it is inferred that, out of 230 respondents, 69 respondents responded Case analysis (30%) as tool used by mentors for gaining learners attention, 128 respondents as Problem Solving skills (55.7%), 27 respondents as Role Plays (11.7%) and 6 respondents as Simulation Games (2.6%)

**Correlation Analysis:**

**Ho:** There is no relationship between Constructivism & learners attention

**H1:** There is relationship between Constructivism & learners attention



**Table 5: Table showing Correlation Analysis**

VARIABLES	CORRELATION CO.EFF	P VALUE
Constructivism & learners attention	0.405	< 0.001 **

**Interpretation:**

The correlation coefficient between Constructivism & learners attention is 0.405 which indicates 40.5 % positive relationship between Constructivism & learners attention & is significant at 1 % LOS. Since P value is less than 0.01, H<sub>0</sub> is rejected at 1% LOS; there exist relationship between Constructivism & learners attention

**H<sub>0</sub>:** There is no relationship between Collaborative approach & learners attention

**H<sub>1</sub>:** There is relationship between Collaborative approach & learners attention

**Table 6: Table showing Correlation Analysis**

VARIABLES	CORRELATION CO.EFF	P VALUE
Collaborative approach & learners attention	0.345	< 0.001 **

**Interpretation:**

The correlation coefficient between Collaborative approach & learners attention is 0.345 which indicates 34.5 % positive relationship between Collaborative approach & learners

attention & is significant at 1 % LOS. Since P value is less than 0.01, H<sub>0</sub> is rejected at 1% LOS; there exist relationship between Collaborative approach & learners attention

**H<sub>0</sub>:** There is no relationship between Inquiry approach & learners attention

**H<sub>1</sub>:** There is relationship between Inquiry approach & learners attention

**Table 7: Table showing Correlation Analysis**

VARIABLES	CORRELATION CO.EFF	P VALUE
Inquiry approach & learners attention	0.485	< 0.001 **

**Interpretation:**

The correlation coefficient between Inquiry approach & learners attention is 0.485 which indicates 48.5 % positive relationship between Inquiry approach & learners attention & is significant at 1 % LOS. Since P value is less than 0.01, H<sub>0</sub> is rejected at 1% LOS; there exist relationship between Inquiry approach & learners attention

**Factor Analysis:**

- Large number of variables are converted to few factors
- 20 statements were taken for factor analysis where initial & extracted loadings were explained
- Iterations were performed through Principal Component extraction Analysis using Varimax with Kaiser Normalization rotation method

- KMO and Bartlett's Test value was found to be 0.620 that indicates the data is useful for factor analysis (Iterations stops when least difference is found)

**Table 8:** Table showing KMO and Bartlett's Test Value

<b>KMO and Bartlett's Test</b>		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.620
Bartlett's Test of Sphericity	Approx. Chi-Square	1250.954
	df	190
	Sig.	.000

**Table 9:** Table showing Rotated Component Iterations

<b>Rotated Component Matrix</b>	<b>Component (Iterations)</b>	
	<b>1</b>	<b>2</b>
CO_ Integrative teaching	<b>.769</b>	
CO_ Reflective teaching	<b>.640</b>	
CO_ Collaborative teaching	<b>.519</b>	
CO_ Inquiry teaching	.493	
CO_ Investigative teaching	-.489	
IA_ Problem Solving	.459	

IA_ Real Life Experiences	-.442	.437
IA_ Decision Making	.412	
IA_ Experiential Learning		
IA_ Knowledge Sharing		
RA_ Electronic Media		
RA_ Drill and Practice		
RA_ Personal Experiences		<b>.805</b>
RA_ Alternatives		<b>.780</b>
CA_ Peer Teaching		<b>.639</b>
CA_ Collective Learning		<b>.521</b>
CA_ Online Collaborative learning		.427
CA_ Jigsaw Method		.413
CA_ TPS Method		
IBS _Role Play		
IBS _Mind Mapping		
IBS _Investigation		
IBS_ Simulation Games		
IBS_ Concept Cartoons		

IBS_ Formulating Questions		
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**Interpretation:**

High value of **KMO (0.620 > 0.6)** indicates, factor analysis is useful for present data. The significant value for **barlett’s test of Sphericity is 0.000 and is less than 0.05** which indicates that significant relationship exist among the variables. The resultant value of KMO & Barlett’s test indicates that present data is useful for factor analysis. **Extraction Method:** Principal Component Analysis & **Rotation Method:** Varimax with Kaiser Normalization.

**Chi – Square Test:**

1. **H<sub>0</sub>:** There is no association between stages of learning concentrated by learners with respect to age group
2. **H<sub>1</sub>:** There is association between stages of learning concentrated by learners with respect to age group

**Table 10:** Table showing Chi – Square Test

Stages of Learning								
Age	Encouragement from Mentor	Developing Reciprocity	Emphasize time on task	Respect diverse talents and ways of learning	Prompt Feedback	Column Total	Chi Square Value	P Value

<b>Below 25</b>	10.1%	29.3%	17.2%	35.4%	8.1%	100.0%	17.099 <sup>a</sup>	0.029
	35.7%	46.0%	30.4%	58.3%	34.8%	43.0%		
<b>Count</b>	10	29	17	35	8	99		
<b>25 -35</b>	8.8%	25.0%	30.0%	23.8%	12.5%	100.0%		
	25.0%	31.7%	42.9%	31.7%	43.5%	34.8%		
<b>Count</b>	7	20	24	19	10	80		
<b>Above 35</b>	21.6%	27.5%	29.4%	11.8%	9.8%	100.0%		
	39.3%	22.2%	26.8%	10.0%	21.7%	22.2%		
<b>Count</b>	11	14	15	6	5	51		
<b>Row Total</b>	28	63	56	60	23	230		

Chi Square test values are shown below,

Test Statistics	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.099 <sup>a</sup>	8	0.29

**Interpretation:** Since P value is less than 0.05, H0 is rejected at 5 % LOS & there is association between stages of learning concentrated by learners with respect to age group

**.Multiple Regression Analysis:**

Variables Entered / Removed						
Variables Entered		Variables Removed		Method		
TM_ Discussion Method, TM_ Expert Group Technique, LP_ Dynamic Assessment, LP_ Cognitive Intervention, LU_ Application of knowledge Learnt, LU_ View from various perspectives				Enter		
a. Dependent Variable: TO_ Performance of Learners						
b. All requested variables entered						
Model		Unstandardized Coefficients		Standardized Coefficient	T	Sig.
		B	Std. Error	Beta		
Co efficient	(Constant)	-.554	.634		-.873	.384
	TM_ Discussion Method	.005	.057	.005	.094	.925
	TM_ Expert Group Technique	.039	.067	.033	.579	.563
	LP_ Dynamic	.099	.064	.089	1.545	.124

	Assessment					
	LP_ Cognitive Intervention	.695	.093	.431	7.433	.000
	LU_ Application of knowledge Learnt	-.011	.065	-.010	-.170	.865
	LU_ Views from different perspectives	.215	.060	.209	3.585	.000

Variables Entered / Removed			
Variables Entered	Variables Removed	Method	
	TM_ Discussion Method, LP_ Dynamic Assessment, TM_ Expert Group Technique, LU_ Application of knowledge Learnt	Removal	
<b>a. Dependent Variable: TO_ Performance of Learners</b>			
<b>b. All requested variables removed</b>			

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.554	.634		-.873	.384
LP_ Cognitive	.695	.093	.431	7.433	.000



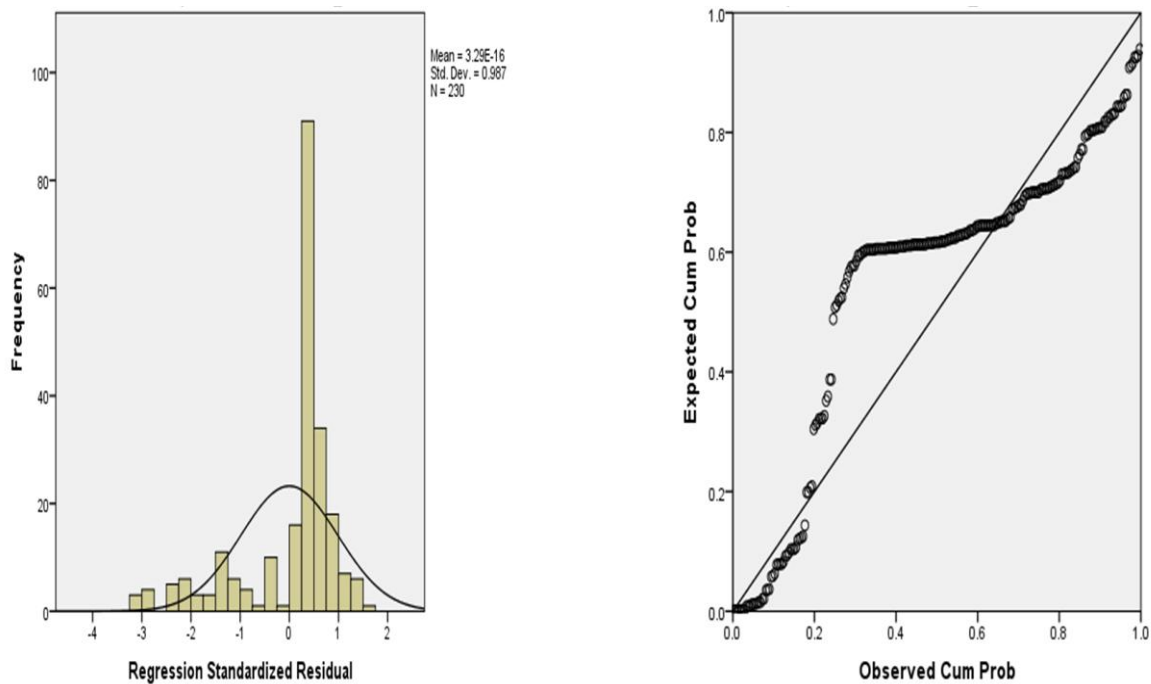
Intervention					
LU_ Views from different perspectives	.215	.060	.209	3.585	.000

**Table 11:** Table showing Model Summary of Multiple Regression analysis

Model Summary					
Model	Sum of Squares	Df	Mean Square	F	Sig.
<b>Regression</b>	120.291	6	20.049	14.369	.000 **
<b>Residual</b>	311.139	223	1.395		
<b>Total</b>	431.430	229			
<b>a. Dependent Variable:</b> TO_ Performance of Learners					
<b>b. Predictors:</b> (Constant), LP_ Cognitive Intervention and LU_ Views from different perspectives					

**Interpretation:** The table shows sig. value is less than 0.01, which means (dependent variable) i.e., teaching outcome is ‘significantly predicted by’ (independent variables) such as learner’s potential & learner’s understanding at 99% of confidence level. Dependent Variable & Independent Variables are represented using Histogram & Normal P – P Plot of Regression Standardized Residual. Regression equation was derived based on the functional relationship between the Dependent and Independent variables.

**Fig 2:** Figure Showing Histogram & Normal P – P Plot of Regression Standardized Residual



**Regression Equation:**  $Y = - 0.554 + 0.695 X 1 + 0.215 X 2$  which shows, teaching outcome is predicted by learners potential & understanding. Here the dependent variable is teaching outcome measured by Performance of the learner's.

### **RESULTS & DISCUSSIONS:**

Out of 230 respondents, 142 respondents are male (61.74%) & 88 respondents are female (38.26%). Out of 230 respondents, 99 respondents are below 25 years of age (43 %), 80 respondents are between 25 - 35 (34.8%) & 51 respondents are above 35 years of age (22.2%). Out of 230 respondents, 28 people responded Learning areas preferred by learners as Visual Aids (12.2%), 63 people responded as Aural Aids (27.4%), 56 people responded as Kinesthetic (24.3%), 60 people responded as Read / Write Strategy (26.1%) & 23 people responded as Projects / Assignments (10%). Out of 230 respondents, 69 respondents responded Case analysis (30%) as tool used by mentors for gaining learners attention, 128 respondents as Problem Solving skills (55.7%), 27 respondents as Role Plays (11.7%) and 6 respondents as Simulation Games (2.6%).

The correlation coefficient between Constructivism & learners attention is 0.405 which indicates 40.5 % positive relationship between Constructivism & learners attention & is significant at 1 % LOS. The correlation coefficient between Collaborative approach & learners attention is 0.345 which indicates 34.5 % positive relationship between Collaborative approach & learners attention & is significant at 1 % LOS. Since P value is less than 0.01, H<sub>0</sub> is rejected at 1% LOS. The correlation coefficient between Inquiry approach & learners attention is 0.485 which indicates 48.5 % positive relationship between Inquiry approach & learners attention & is significant at 1 % LOS. Since P value is less than 0.01, H<sub>0</sub> is rejected at 1% LOS. High value of KMO (0.620 > 0.6) indicates, factor analysis is useful for present data. The significant value for barlett's test of Sphericity is 0.000 and is less than 0.05 which indicates that significant relationship exist among the variables. There is association between stages of learning concentrated by learners with respect to age group. Since,  $Y = - 0.554 + 0.695 X 1 + 0.215 X 2$  which shows, teaching outcome is predicted by learners potential & understanding. Here the dependent variable is teaching outcome measured by Performance of the learner's.

### **CONCLUSIONS:**

Learner Centered teaching engages students for learning tasks, develops learning skills through practice. Learner centered teachers teach students how to think, solve problem, evaluate evidence, analyze arguments if they are taught explicitly with the content.

Learner centered teaching encourages students to reflect on what they learn, encourage them to accept responsibilities for decision making. Learner centered approach encourages collaboration, where the learning is seen as collective and individual approach of any educational experience.

### **LIMITATIONS OF THE STUDY:**

- Data accuracy depends on the information recorded by the respondents
- Information collected from the respondents may be inclined

### **DIRECTIONS FOR FUTURE RESEARCH:**

- The study may be conducted with more samples
- The study may be conducted to know the effectiveness of online learning
- The study may be conducted to find out whether culture creates influence on the methods of learning

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