Webology (ISSN: 1735-188X)
Volume 18, Number 6, 2021

A Study On Interconnection Between Teaching Philosophy & Student's Performance In Summative Evaluation

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Abstract— This study is concerned with the effectiveness of the philosophy of teachers and the performance of student's in their final examinations. Various existing studies shows some aspects to improve the present educational philosophy, but are unable to collect them all. It investigates the factors which are responsible for affecting the classroom learning environment and analyze the most impacting factor. A total of 410 students of various private institutions were surveyed using a self-made questionnaire. The questionnaire was composed of 50 items related to the teacher's philosophy and students' learning from classroom activities. The result showed that rapport building with the students increases the excitement level and motivates them to participate actively in the classroom activities. Thereby, maximizing their engagement in utilitarian activities hence increasing the learning outcome. Along with the rapport, content clarity is also inescapable. Online teaching and strictness of teacher are the least impacting factors. This research proposes the factors whose increased intensity certainly increases the outcome of students' performance. The survey results will help various private institutions to conduct practices that will enhance the teaching effectiveness.

Keywords—Educational Philosophy; Teacher Effectiveness; Summative Evaluation; Student's Performance; Educational Environment

I. INTRODUCTION TO CURRENT TEACHING AND LEARNING STATISTICS

Teaching aims at a certain type of learning and learning is considered a relatively permanent change [1] in the behavior of a student. To maximize the output of the teaching-learning process a teacher must integrate innovative teaching methods and aids. These aids help the students to understand the concept well and retain knowledge for a longer period of time. The government is consistently working on the educational domain to maximize the outcome of educational activities. And consequently, educational activities have shifted from the traditional teacher-centered method to student-centered methods in the mid-90s. Now, it is more focused on constructivism but still, the questions about the effectiveness of the teaching philosophy are unanswered.

Many researchers have attempted to unfold the relationship between the teaching philosophy and performance of students in their summative evaluation. Various methods could be used to improve the quality of educational activities to maximize the outcome. Experience of faculty, subject expertise, self-confidence, and critical approach are some of the factors which affect the student's performance (Howard P. Tuckman, 1975) [2]. There is a direct relation between the effectiveness of the teacher and the achievement level of students. Efforts of teacher (direct as well as indirect) add to the performance level of students (Parihar, 2011) [3]. The effectiveness of teaching has been found one of the most prominent factor which affects students' performance [4]. Motivation strategies and outcome based engagement of students in the process of teaching & learning are the most encountered tools of the effective teachers. A teacher cannot work under the assumption that some students cannot be engaged actively in classroom and destined to perform poorly. Instead, they work under the assumption that every student is capable of achieving success; they do their best to find ways of making each student successful (Hadiya Habib, 2017) [5].

This study aims at finding out the relevant factors which interconnect the teaching philosophy with the performance of students in their summative evaluation. Increasing the intensity of the dependent factors may increase the performance of students indubitably. It also concentrates on the challenges that are encountered by various researchers (School culture, Educational environment, emotional development, racial differences [6], language barriers, etc) in their studies. To discover the most effective factor for improving the student's performance.

Further the paper could be classified in the following segments: Section 2 underlines various aspects related to the teaching philosophy and its inter-connectivity with student's performance. Section 3 underlines a comparative study on factors that are mostly encountered, and are more related to validate the study. Section 4 underlines survey findings by drawing attention to different factors and their need to be taken into consideration for efficient teaching philosophy. Section 5 underlines conclusion and future scope that will help both the student and teacher to improve the teaching and learning scenario.

II. TEACHING PHILOSOPHY AND EFFECTIVE TEACHING

"Philosophy and education are like the two sides of the same coin [7]; the one is implied by the other; the former is the contemplative side of life, while the latter is the active side." - **J.S. Ross**

Educational philosophy is concerned with identifying and clarifying the understandings, values and beliefs of an individual or group of individual with reference to education. Educational Philosophy helps a teacher

identifying their attitude, discipline, way of thinking, expectations [8] from the learner. It also helps in setting the educational goals, educational planning, programs, processes, and strategies to achieve the goals.

Philosophy is speculative in nature and education is the practical, applied and realistic notion to the philosophical beliefs. Identifying the appropriate philosophy is a must to obtain the predetermined aim of the education. Different philosophies stress different factors (learning factor, physical factor, intellectual factor, environmental factor, and emotional factor) and the outcome of the teaching-learning process depends majorly on these factors. **Bulger (2002)**; discussed four major factors for effective teaching that are outcomes, clarity, engagement, and enthusiasm [9]. He considered these four factors as four aces that help in bringing out the possible disorder.

Facilitating learners is considered as the prime responsibility of the teachers. The philosophy and effectiveness of teachers when implemented systematically in the designing, content selection and delivery of content can affect the performance of students positively. **Brophy 1986,** highlighted that engagement of students in an appropriate academic task for example minor projects, laboratory work, presentation exposure, debates, and competitions influence the achievement of students [10]. His theory also emphasized the remarkable performance of students where a teacher used the inductive approach. This approach concluded structuring new information for students and help relating it to their previous knowledge followed by monitoring their performance. His theory also focused on providing corrective feedback during the teaching-learning process and application activities.

The effectiveness of teaching is always being measured in the terms of the performance of students since long ago. The performance of students is measured in terms of various factors of the philosophy and the effectiveness of a teacher. Product- Process model [11] was the dominant model in the 1970s to measure the effectiveness of teaching. This theory considered the desired pupil attainment as a product and the philosophy of the teacher as the process which helped in achieving the desired outcomes. Although many drawbacks and loopholes (Conceptual, Methodological, productive, and Interpretative [12]) of this model were examined by various researchers**.**

Teacher effectiveness has various dimensions [13] (Rapport building of teacher/student, communication, transactional style, and excitement) and it is considered as multi-dimensional; comprising of various factors. The intensity of these factors determines the outcome of the effectiveness of the teaching-learning process following the outcome of the performance of students. **Jeff Patrick & Roslyn M. Smart** in 2006 conducted a study to identify the nature of teacher effectiveness. This theory identified three major factors which contributed to the effectiveness of a teacher [14]. The factors discovered are student's regard, providing competitive environment, arrange of material and transactional skills of the teacher. Various other factors were also identified (Caring, systematic, Stimulating, Intellectual ability); only major factors are discussed here.

III. RESEARCH METHODOLOGY

The study is performed based on the survey results received from the questionnaire. The questionnaire is composed of several questions related to the teacher's philosophy and students' learning in the classroom activities. The respondents were students of various Institutions in the Delhi-NCR region. Based on the survey

performed, various factors are analyzed that plays a vital role concerning the students' learning in the classroom.

The specific objectives of the present study are as follows:

a) To examine the factors that more or less affects classroom learning.

b) To contemplate those factors for data analysis and find out the highest influencing factors that may be somehow related to the student's performance in the final exam.

The review of literature and the analysis of data conceived the following as the most influencing factors:

1) Excited
2) Interesting
3) Positive
4) Learning while Session
5) Fun at learning
6) Physical learning with Digital Tools
7) Easy learning with digital gadgets
8) Offline Learning
9) Online Learning
10) Extra efforts by teacher
11) Supportive
12) Behavior of a teacher
13) Strict, disciplined and knowledgeable teacher
14) Teacher with good behavior, but least subjective knowledge

A. Sample size and target

The investigation is performed on suspects studying in various private institutions in the Delhi-NCR region. The target sample size at initial was set to 410 out of which approximately 385 respondents validated with appropriate responses. To achieve the subjectivity of this study, an analysis is to be performed focusing on finding aspects of different teaching philosophies and their impact on student's performance in the final exam. Total count of fourteen factors was taken at initial for the data analysis, but further analysis methods reduced them to ten factors.

1) Pilot Testing

Pilot testing [15], [16] is done to attain the lucidity in questionnaire and the reliability of variables, several pre testing methods need to be performed.

a) Sampling Procedures

Research relies on a survey technique to gather information via questionnaires distributed to various suspects in the Delhi-NCR region studying in various Private Institutions. These suspects were 18 years and above age. The questionnaire method was containing 70 items. Our survey technique bifurcated questionnaire items to 14 different factor loads relevant to analyze the aspects that how teaching philosophy is connected to the student's performance.

2) Data Analysis

Exploratory Factor Analysis (EFA) [17] was performed to cut off the count of proposed items to some level. To satisfy the level of reliability and validity of the conception, an individual measurement model has to be examined. Furthermore, the procedure of factor analysis is performed and respondents answered to items according to their excuses.

B. Reliability and Validity Test

This section concentrates more on analyzing the reliability and validity tests on the factors considered while making the questionnaire. Afterward, Cronbach's Alpha [18] is measured for each of them, so that the factors with the highest loading factor are discovered. An IBM SPSS Statistics software (version 20.0) [19] is used to perform a reliability test on 100 items in the questionnaire. Table 1 depicts the alpha coefficients calculated for each factor involved. To improve the scales, those adapted from previous studies, Cronbach's alpha coefficient and EFA were applied. Reliability test for analysis was done onset of 14 factors, separately. Survey findings stated that a minimum of 05 items should be included for which separate alpha coefficients are to be assigned.

As recommended by testing research theory [20], a cut-off level is to be fixed at 0.7. Thus eliminating the factors, that are unsatisfactory in the level of reliability. After recurrence, a lot of times, a count of 50 items for 10 constructs (to which, 70 items for 14 constructs were initially proposed) are found most relevant.

TABLE I. Reliability test for factors that contribute in finding connectivity in-between Student's Learning and Teaching Philosophy

S. No.	**Factors Considered**	**Cronbach' Alpha**
1	Excited	0.826
2	Interesting	0.739
3	Positive	0.760
4	Learning while Session	0.608
5	Fun at learning	0.782
6	Physical learning with Digital Tools	0.783
7	Easy learning with digital gadgets	0.784
8	Offline Learning	0.827
9	Online Learning	0.239
10	Extra efforts by teacher	0.740

Calculated Alpha coefficients for factors namely 1, 2, 3, 5, 6, 7, 8, 10, 11, and 12has met the considerable range of reliability that lies in between 0.739 and 0.828. Though, factors like 4, 9, 13, and 14 didn't meet the minimum reliability with loads as 0.608, 0.239, 0.586, and 0.437. Thus, these indicate an inadequate level of reliability concerning the inter-connectivity of Teaching Philosophy and student's performance. To

11	Supportive	0.785	achieve constancy, unsatisfactory factors were removed and was restricted to further load the factors with minimum of 0.7.
12	Behavior of a teacher	0.828	
13	Strict, disciplined and knowledgeable teacher	0.586	
14	Teacher with good behavior, but least subjective knowledge	0.437	

C. Exploratory Factor Analysis (EFA)

EFA is used basically to cut off the count of items in the questionnaire and also to evaluate validity for the construct. Kaiser-Meyer-Olkin (KMO) and Bartlett's test [21], [22] are opted by most researchers to validate the robustness for each factor analysis and sampling adequacy procedure. Table 2 depicts the KMO calculation of sample adequacy as (0.855) which is approximately 01. Furthermore, while applying Bartlett's Test of Sphericity, a considerable value (p=0.000) is received i.e. approximately 0.05 (such that p-value <0.5). Hence, it can be stated that the sample and factors extracted are now more optimized and adequate.

TABLE II. KMO AND BARTLETT'S TEST

Test		**Adequacy**
Kaiser-Meyer- Olkin Measure of Sampling Adequacy		0.869
Bartlett's Test of Sphericity	Chi- Square	10755.438
	Significant Value	0.000

IV. SURVEY FINDINGS

Table 1 & 2 depicts the optimized count of total factors (10 factors) after applying reliability tests on a set of factors. The factors that are most relevant to findings related to the inter-connectivity of teaching philosophy and student's learning are excited, interesting, positive, learning while session, etc.

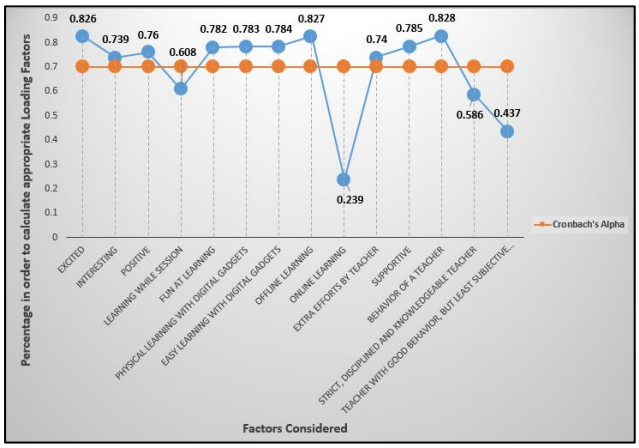

Fig. 1. Open Source Factor Analysis for suggested 10 factorsusing Cronbach' Alpha

Fig. 1 concludes an open-source factor analysis for the set of factors that were taken at initial. From the fig. 1, it can be analyzed that factors, namely, learning while sessions, online learning, etc. did not meet the criteria of most relevant factors. It is found that factors offline learning, the behavior of a teacher has received the maximum count for the Cronbach's Alpha. hence, it can be said that students are more focused in classroom sessions where the behavior of a teacher is recommendable. Further analysis can be drawn out from the fig. 2, 3 & 4.

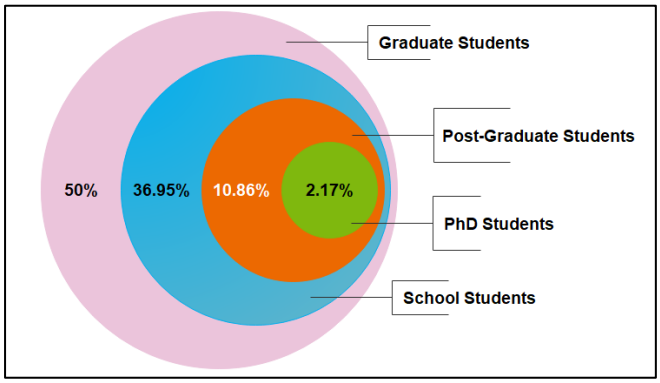

Fig. 2. Categories of Suspects in Survey

Fig. 3 concludes that the overall study was performed based on the responses received from the respondents who belonged to either of the categories. The categories of respondents included 2.17% Ph.D., 10.86% post graduate, 50% graduate, and 36.95% school students. These respondents validated the study upon the factors realized in above literature.

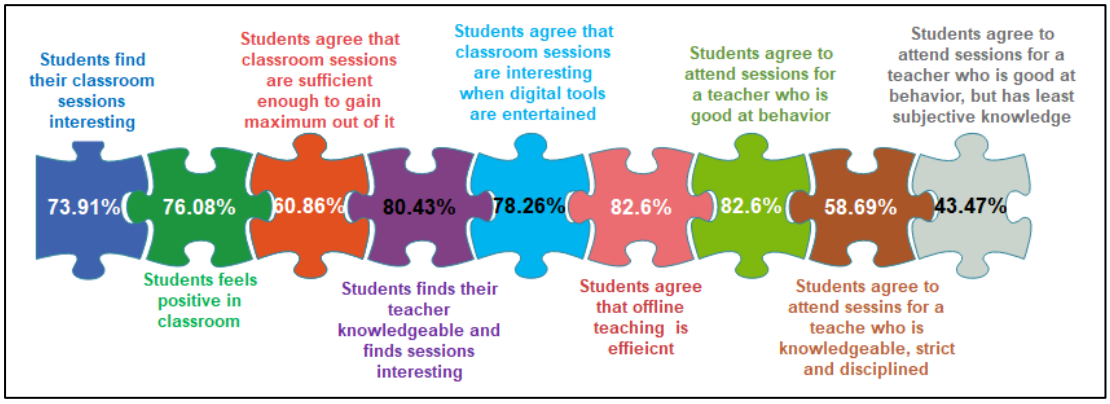

Fig. 3. Survey Summary (Student centric)

Fig. 3 concludes the responses that were provided by students of various levels. 60.86% of students agree that classroom sessions are sufficient to gain maximum out of it. 80.43% of students find their teacher knowledgeable and find sessions interesting. 78.26% agree that classroom sessions are interesting when digital tools are entertained. 82.6% of students agree that offline teaching is efficient. 58.69% of students agree to attend sessions for a teacher who is knowledgeable, but strict and disciplined.

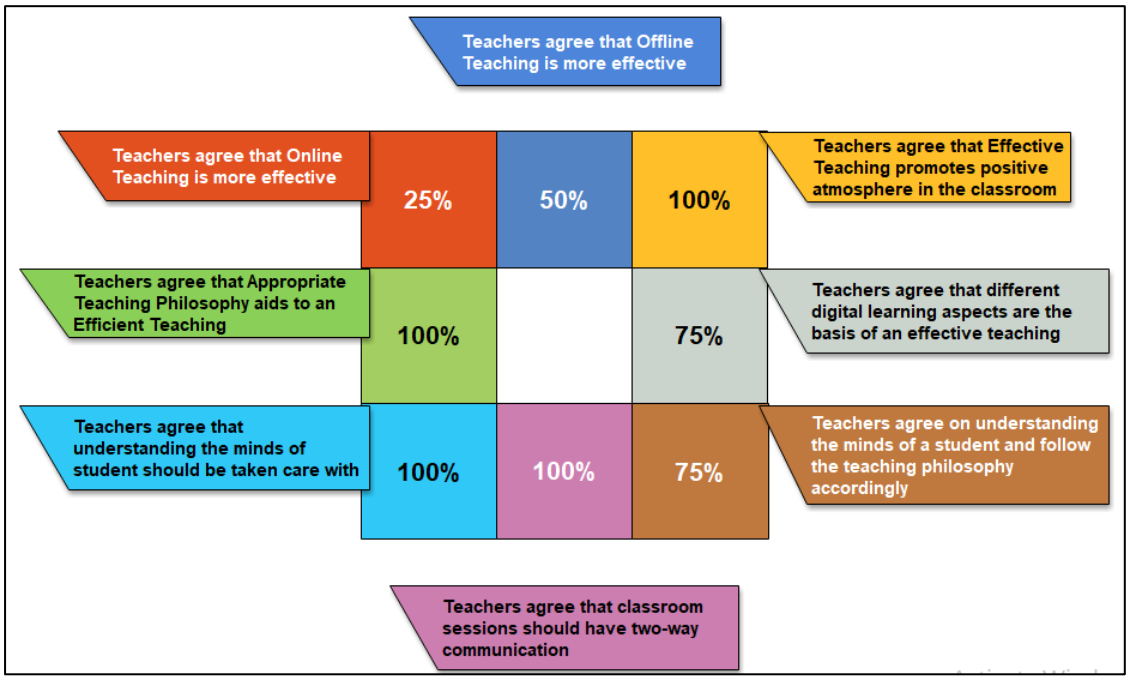

Fig. 4. Summary Report (Teacher centric)

Fig. 4 concludes the responses received from teachers teaching in various institutions. Only 25% of teachers agree that online teaching is more effective. 100% of teachers agree that effective teaching promotes a positive atmosphere in the classroom. 75% of teachers agree on understanding the minds of a student and follow the teaching philosophy accordingly. 100% of teachers agree that classroom sessions should have two-way communication.

CONCLUSION AND FUTURE SCOPE

Students studying in various institutions are the future of a country. Hence, it is required to focus more on the methods that help students to gain maximum knowledge in the classroom sessions. Teachers should opt for various methods to teach effectively. In the paper, a survey is performed on various factors related to the teaching philosophy and student's learning in the classroom. The survey was performed to find out the interconnectivity of teaching effectiveness and students' performance in the final exam. Furthermore, a primary questionnaire was made, to which Cronbach's Alpha factor is applied to justify the most significant factors from the proposed list of factors set. From the overall study, it can be stated that students are more dependent on classroom sessions from the knowledge perspective. Effective teaching is directly dependent on the student's learning in classroom sessions. The more effective teaching is the maximum student can gain out of it. The purpose behind this survey is to provide a basis for governmental and non-governmental institutions that an appropriate teaching philosophy should be facilitated. Continuous training and mentoring is required to make the teaching effective.

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