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Paradigm Shifts in Teaching-Learning Process and its impact on Students' Academic Achievement: A Study in Secondary Schools of West Bengal

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Abstract:

This paper threw a light on the transition of teacher from being instructor to a facilitator, supporter who encourages learner in learning by a new and different way. It was found that in this new paradigm students also feel motivated, intrinsically engage and have the opportunity to develop relevant skills. This paper aims to explain how paradigm shifts in teaching effects students' academic achievement. The sample consist of 50 secondary school teachers and 100 students who are studying in Government secondary schools of West Bengal. This study employs a qualitative research methodology. This methodology integrates an extensive analysis of previous studies, drawing insight from adverse range of secondary sources including journals, books, Government policies and publications. Results reflect that there is a positive relationship between teaching method and students' academic achievement. This paper encourages teachers to think beyond the traditional way of teaching to consider how the modern way of teaching can support learning.

Key terms: Paradigm Shifts, Transforming Education, Academic Achievements.

1. Introduction:

Kuhn (1962)¹ chased the word paradigm in his book Scientific Revolutions, which was published in 1962. Kuhn characterizes a paradigm as "an intertwined cluster of generalities concepts, variables and problems attached to corresponding methodological approaches and tools". The convention on the Rights of children also states: Education shall prepare the child for an active adult life, in a free society and foster respect for the child's parents, his or her own cultural identity, language and values and for the cultural background and values of others ". Therefore, education should aim not only at developing a sense of quality but also promote creative thinking to face the challenges in life. The secret of an effective learner lies in the strategies she or he uses to learn. The pragmatic teaching emphasizes the experimental process of acquiring knowledge. Preceptors are in favors of experimental teaching. One should encourage students to think critically by assaying information, asking questions and applying their knowledge to analyses

¹ Kuhn, T. S. University of Chicago Press. <https://press.uchicago.edu/ucp/books/author/K/T/au5252573.html> (accessed Nov. 24, 2022).



problems. Irrespective of student's background, capabilities and learning styles they should all be able to learn and grow to their full potential. For example, a project that combines science and history might involve students researching ancient civilization technological advances and then constructing models based on their findings. Artificial Intelligence can induce custom learning materials such as quizzes, flashcards and indeed entire assignments acclimatized to students' strengths and weakness. AI tools allow students to check their schoolwork for its quality. This technology can give feedback one's schoolwork for its quality.

2. Review of Related Literature:

Wagay (2023)²-studied the impact of ICT on the school achievement. The sample consist of students belongs to various government and non-government school. Control group are studied through ICT and another group studied through traditional way of teaching. The study reveals that information and communication technology has positive impact on students' performance.

Shraim and Khalif (2010)³ studied e line approaches of learning to secondary education. Lesson plan of each subject was developed based on eLearning resources. The study revealed that Student and teachers both are enjoying in their way of learning and teaching. In their exploration it was set up that 75% students and 72% preceptors were lacking in skills.

Shrauty (2023)⁴ has studied Gamified and non-gamified flipped mathematics classroom: a comparative study examines academic achievement conditions. interest and motivation of students This experiment study was conducted in two phase, phase one used nonequivalent quasi experimental group design. It compared gamified flipped and non-gamified flipped classroom. Phase two compared the effect of gamification in competitive and collaborative It used single group pretest and posttest design. The study revealed that gamified classroom has positive effect on students' academic achievement.

Sharma (2022)⁵ Effect of blended learning on achievement in English and academic anxiety of secondary school students in relation to self-efficacy. The study examined the effect of blended learning on achievement in English and academic anxiety of secondary in relation to self-efficacy. The sample consist of 128 class nine students from CBSE school. For providing blended learning a

² Wagay, M. A., & Arora, Dr. R. K. S. (2021). A correlative analysis of ICT and academic achievement of secondary school students. *IJAR*, 7(5): 160-165.

³ Shraim, K., & Khalif, Z. N. (2010) An e learning approach to secondary education in Palestine: opportunaties and challenges. *Information Technology for Development*, 16(3),159-173

⁴ Shrauty, V. A. (2023) Effect of gamified and non-gamified flipped Mathematics classroom: a comparative study examines academic achievement, interest and motivation of students. Available on <http://hdl.handle.net/10603/524288>

⁵ Sharma, A. (2022) Effect of blended learning on achievement in English and academic anxiety to secondary school students in relation to self-efficacy. Available on <http://hdl.handle.net/10603/400933>



website called MOOC was developed. An achievement test was developed and investigated by the researcher. The high self-efficacy students showed significant reduction in their anxiety levels as compared to low self-efficacy students. The study contributes to the pedagogical body of knowledge.

Dhiman (2022)⁶ has been studied the effect of blended eLearning on cognitive absorption, Behavioral Intention and academic achievement of senior secondary school students. The study used pretest posttest control group design conducted on 60 students of class twelve students from two private coed CBSE schools. The experiment revealed that the academic achievements of student taught through blended eLearning was found significant than the traditional teaching.

6. Khan (2022)⁷ studied the impact of computer on Academic Achievements of students of Government and private schools. The sample for the study consists of students who are belongs to various govt and non-government school. Experimental design was constructed for the study. Pré test and posttest was done. The study revealed that student's engagement was high while reading through computer and other digital platform.

Deghaidy and Nouby (2008)⁸ studied the effectiveness of a blended E-learning cooperative approach in Egyptian teacher education programmed. The study was carried out at the School of Education at a governmental university, The sample of the study was 26 sciences preservice teachers of 4th year undergraduate teacher education programmed at Egyptian University. The experimental design used for the study is a pre-test and post-test control group design. The participants were randomly allotted to the experimental and control group Mixed method approach entailing quantitative and qualitative methodologies was employed.

Kumar (2010)⁹ studied the effect of blended learning strategies on learning retention and attitude of secondary school students. The study was performed on class nine students of two CBSE schools in Rishikesh city. The data was collected from two secondary public schools. Two sections of 9th class from each school were taken as cluster sample. The final sample was of 120 students, consisted 60 students in experimental group and 60 students in control group. The tools used for data collection included an objective type English achievement test and an

⁶ Dhiman, S. B. (2022) Effect of blended learning on cognitive absorption, Behavioral Intension and academic achievement of senior secondary school students. Available on <http://hdl.handle.net/10603/532002>

⁷ Khan, F. M. (2022). Impact of internet and communication technology on the academic achievement of students of Government and Private Schools. *Educational Reemergence Journal*, 5121, 2, Oct. 2014, Doi: 10.1186/s40561-014-0002-7.

⁸ EL-Deghaidy, H., & Nouby, A. (2008). Effectiveness of a Blended E-Learning Cooperative Approach in an Egyptian Teacher Education Programmed. *Computers & Education*, 51(3), 988-1006 <https://doi.org/10.1016>

⁹ A. Kumar (2021). "Blended Learning Tools and Practices: A Comprehensive Analysis," in *IEEE Access*, 9, 85151-85197, doi: 10.1109/ACCESS.2021.3085844.



attitude scale for English language and attitude scale. The study revealed a positive effect of blended learning on students' academic achievement.

Amirkhanpour, Kaufmann and Garcia (2010)¹⁰ in their paper, provided a comprehensive view of e learning concepts as the foundation for an e-learning strategy. The study demonstrates comparisons between various e-learning platform features and services. Furthermore, the analysis results highlighted the participants' proclivity toward a social learning environment, which was significantly higher in using social networks and other collaboration platforms.

Barbour¹¹ et al. surveyed Blended learning procedures followed in different geographical regions. This is a detailed statistical survey over Online and Blended learning for K-12 schools. It has been observed that lack of government policies over online learning practices are major hindrances in adopting such learning practices. This survey has prepared in-depth parameters that are the hurdles in implementing Online and Blended learning programs in different regions. Further, a detailed country-wise profile provides information about private and publication partners, funding sources, challenges, current status, student information, teachers' training programs, and other summarized information over Online and Blended learning programs.

3. Research Gap:

A number of studies have been conducted in India to study the effect of blended learning on students' academic achievement. Various studies have been conducted to find the effect of flipped classroom on overall achievement of students. More number of researchers showing interest towards students' achievements and its related variables. The investigator thought worthwhile to undertake the present study to find out paradigm shifts of teaching and learning.

4. Purpose of the Study:

Many studies have been setup which focuses on teaching methods and academic achievements of students but there has been no study setup in which the impacts of paradigm shift on academic achievement of students are studied. Therefore, the objective of the current study is to review the various tutoring styles in this new paradigm to assess the impact on secondary school students of West Bengal.

¹⁰ Amirkhanpour, M., Kaufmann, H. R., & Garcia G., A. (2010). "An Analysis of E-Learning Practices within Cyprus Universities" *Business Research Challenges in a Turbulent Era*, 109-124, Nicosia: EuroMed Press, (ISBN: 978-9963-711-01-7).

¹¹ Barbour, M., Brown, R., Waters, L. H., Hoey, R., Hunt, J. L., Kennedy, K., Ounsworth, C., Powell, A., & Trimm, T. (2011). "Online and blended learning: A survey of policy and practice from K-12 schools around the world," *Int. Assoc. K-12 Online Learn., iNACOL, Vienna, Austria, Tech. Rep. ED537334, 2011.*



5. Objectives:

- i) Study the Paradigm Shifts in teaching process.
- ii) Study the effect of new Paradigm Shifts in teaching on students' Academic Achievement.

6. Research Methodology:

This section discusses the investigators procedure for conducting this survey. It involves a description of the research design, sample, Questionnaire and Data Collection Procedures.

6.1. Sample: It has been determined that secondary school teachers are among those most probable to have important contact in school environments with learners. Potential respondents in this research were approached directly in answering the questionnaire of the survey. 50 school teachers were selected as the respondents in this research.

6.2. Questionnaire: In this study, the research instruments used is questionnaire divided into sections. Section „A“ relates to the demographic information of the respondents. Sections B of the questionnaire were developed by the researchers. On the other hand, the summative examination results also taken.

6.3. Recruitment and Data Collection Procedures: Present study is qualitative research as it relies on secondary data which are collected from journal, government publications and books. The government documents, press releases, research papers and articles have been referred by the authors.

Table-1:

Types of Learning	Meaning	Teachers Role
Flipped classroom	Student watch the prerecorded lecture before entering class	Teacher assists the students during class time in solving assignments
Blended Learning	Combines both traditional and online procedure	Teacher facilitates group work and promoting cooperation
Gamification	Incorporating gaming elements into learning activities	Teacher guided the game
Project Based Learning	Develop knowledge and skills in solving real world problems	Teacher facilitates students and guide them
Inquiry Based Learning	Encourages students by making real world connections through questioning	Help students in generate their own questions
Collaborative Learning	Students work together to learn and solve problems	Create learning environment and encourages students for performing well
Personalized Learning	Customized learning on individual basis	Identify each student's needs, strengths and guides them
Competency Based Learning	Outcome based approach to ensure proficiency in learning	Create and distribute educational content to the students to develop the competencies
Experiential Learning	Learning through field trips, visiting museum or cultural institution	Create learning experiences



7. Analysis:

7.1 Paradigm shifts of teaching and role of teacher

7.2 Impact on Students Academic Achievement:

Government of West Bengal in 2007-08 has funded to introduce computer-grounder literacy system named "KYAN" (vehicle of knowledge). This design has been accepted by 65 government schools covering above five preceptors and forty thousand students. Multiple survey and the academic results revealed that the tutoring methods have a direct impact on students' engagement and the summative result. The experimenter completely examined the summative Examination report card of the students. It was set up that the figures of marks attained in science and environment are high compared to literature and mathematics. also, a better teaching process and well-equipped classroom also increases the number of total yearly registration.

7.3 Conclusion and Further Research:

In the present study the experimenter tried to study the impact of new paradigm shifts of tutoring on students' academic achievement. It was found that secondary school students face many problems so they should be brought up in suitable atmosphere. Appropriate tasks should be created to motivate and direct their energy. From the study it is evident that tutoring process plays a significant part in shaping the student's life.

8. Suggestions:

- (i) Preceptors must have trained.
- (ii) here should be continuous refresher courses for teacher's skill development.

9. Limitations and Further Exploration:

The exploration has been applied on government schools of West Bengal. The exploration can be done on a large scale for the whole country. The exploration can also be done on primary schools. A survey can be conducted on obstruction faced by the preceptors while implementing technology-grounded tutoring methods in schools.

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