Study on Traditional Learning & E-Learning and its impact on Academic Achievements of Secondary Level Student

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Abstract -

Introduction: *One solution to the difficulty posed by globalization, technological advancements, and demographic shifts is the availability of opportunities for lifelong education. All facets of society are now ruled by technology.*

Aim of the study: *the main aim of the study is to Traditional Learning & E-Learning And Its Impact On Academic Achievements Of Secondary Level Student*

Material and method: *A Research Design, as defined by Claire Selltiz et al. (1991), compiles all of the information and steps necessary to create a study.*

Conclusion: *This research set intended to compare the efficiency of online education to more conventional means of instruction for secondary school pupils. E-learning has been shown to be more efficient than conventional teaching approaches.*

Keywords - Academic, Achievements, Opportunities, Technology, Conventional, Secondary

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1. INTRODUCTION

One solution to the difficulty posed by globalization, technological advancements, and demographic shifts is the availability of opportunities for lifelong education. All facets of society are now ruled by technology. An additional area where IT has had an effect is in classrooms. There have been significant changes in the way information is transmitted in schools during the last several decades. There has been no slowdown in the exponential rise of digitalization, automation, and the internet during the last several years. Access to the Internet is no longer limited to a narrow group of academic institutions; nowadays, almost everyone has access to the World Wide Web from their homes, workplaces, public libraries, and Internet cafes. To be successful in any endeavor, knowledge is now essential. When India gained its independence, it inherited an education system with severe inequalities between sexes and socioeconomic categories, between the urban and rural populations, and between the top and poorer classes. After India's independence, providing equal access to education became a top priority for the country's government.

1.1 Concept Of Learning

To put it simply, learning is crucial. What and how we learn greatly affects our actions and inactions. Therefore, learning gives a map of how our character and actions are built. Learning, in its broadest sense, refers to all of the experiences and transformations that shape an individual's behavior throughout the course of his lifetime.

1.1.1 Definitions of Learning

"The word learning encompasses any change in behavior to fulfill ecological needs." ". - To learn is to pick up skills and information. Attempts to overcome challenges or adapt to novel circumstances need the adoption of novel approaches. It stands for the gradual evolution of human conduct. This piques his curiosity and helps him reach his objectives ". What a pair of crows! (1973)

1.2 Concept of E-Learning

Despite the widespread use of the word "e-learning" over the last several years, many people remain confused about what it entails and how it may benefit their lives at work and at home. This brief ebook is

written with the hope that it would serve as an accessible introduction to the e-learning sector for anyone interested. Five broad categories make up the structure of this ebook. The first section lays out the argument for online education, including issues such how it came to be, what it offers, and whether or not it genuinely facilitates education. In the second section, we cover some of the most useful classes of educational resources now on the market. Third, we'll talk about what makes online courses unique and how to establish thriving online learning communities.

The fourth area is the study of new methods of instruction. Concepts like "micro-learning" and "gamification" are broken down and clarified here. The last section discusses how e-learning is being use in various sectors. Until the early 2000s, education took place in a classroom setting, with a teacher at the helm and pupils sitting in rows. As obvious as it was to be there in person, it was doubtful that anything else could have prepared them as well. The rise of computers, however, has altered the educational scene in profound ways.

2. LITERATURE REVIEW

Kingsley T. Onah (2022) The purpose of this research was to examine the relationship between academic interest and performance in Physics amongst high school students in the Enugu Education Zone of Enugu State. For this investigation, we opted for a survey-based correlational approach. A total of 244 Physics students (105 male and 139 female) from 10 different Zone schools were recruited using a purposeful selection technique. Students' Achievement Scores were gathered from the results of the promotion examinations at the schools utilized, and the Academic Interest Scale (AIS) was derived from Wong and Wong (2019). Cronbach's alpha reliability testing revealed an overall instrument (AIS) reliability of 0.84, validating the work of the three experts who verified it. Multiple regressions were used to examine the data. Results showed that academic curiosity substantially and relatively predicted secondary school Physics success by 18%. Results like this led to the conclusion that teachers should use measures to increase their students' motivation to learn about Physics in the classroom.

Dr. Showkeen Bilal (2013) The relationship between adolescents' sense of self and parental support for their education was investigated. The study utilized a descriptive survey research design, with a sample size of 228, all of whom were drawn at random by stratified sampling. Dr. Rastogi and Ms. Rani's self-concept scale and Hardeo Ojha's 2009 three-dimensional parental behavioral inventory were utilized to gather information. Additionally, pupils' academic success assessment marks from the previous year's annual examination were recorded from the school's records for both 9th and 10th graders. The study found that I male and female students' self-concepts are positively related to their academic performance, (II) female

students' fathers' encouragement was not significantly related to their academic performance, (iii) male students' fathers' encouragement was significantly related to their academic performance, and (iv) male students' mothers' encouragement was significantly related to their academic performance.

Yeshi Nidup (2022) The purpose of this research was twofold: to identify any links between student population and test scores, and between school location and test scores. Data from the Bhutan Council of School Examination and Assessment covering 110 schools in grades 10 and 12 from 2015 to 2019 was used for the quantitative study (BCSEA). Twenty-five educators, all with classroom experience in both rural and urban settings, provided comments for the qualitative study. We used the t-test, correlation analysis, and descriptive analysis for the quantitative data, and theme analysis for the qualitative data. According to the results, there is an inverse relationship between student enrollment and academic performance. When comparing 2017 with 2018 and 2019 with 2020, the correlation coefficient was -0.2, -0.3, and -0.4, respectively. In all years except 2015, when it showed a positive correlation of 0.02, it exhibited a substantially negative correlation. Academically, rural schools have consistently outperformed their urban counterparts throughout the years. In 2017, 2018, and 2019, the average pass-percentage gap was 0.5, 0.3, and 3.6; in 2015, however, urban schools performed better than distant schools by 2.3 percent. Class size reduction in Tennessee's Student Teacher Achievement Ratio (STAR) experiment has been shown to offer long-lasting benefits for students' academic and personal success, even after the STAR program finished and students returned to their regular classroom configurations (Schanzenbach, 2014). Students are more engaged and spend more time working on tasks when the class size is smaller, and instructors have more time to personalize their lessons to the needs of their students when they can spend more time with them individually. According to Lazear's (2000) theory, smaller classrooms have less interruptions, leading to higher student-to-teacher interaction and better student learning than bigger ones. Many educators, like Glass and Smith (1979), feel that smaller class sizes lead to higher student accomplishment because more individual attention can be given to each student. Class size matters, and Bruhwiler (2011) argues that kids benefit most from being in smaller classrooms in the early elementary years, even if they end up in bigger classes in the later elementary, middle, and high school years. Overcrowded classrooms (high class sizes) have been identified as a factor in low student success by researchers Molnar, Chase, and Walden (2000) and Gentry (2002).

B. J. Obomanu (2011) We provide findings from an investigation examining the causes of student failure in science, technology, and mathematics (STM) courses taken at public schools in Rivers State, Nigeria. Over the course of the research, 240

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secondary school students, 100 parents, 140 STM educators, and 20 city officials from Port Harcourt Metropolis were interviewed. This study was led by five (5) research questions and one (1) hypothesis. Data was collected from respondents using individual questionnaires. The research questions and results from the hypothesis were analyzed using frequencies, percentages, a bar chart, the mean, the standard deviation, the variance, and analysis of variance. The findings showed that the vast majority of educators in STM-related fields lack the necessary training. They possess either a higher national diploma (HND) or a degree in engineering. Students were found to have a negative outlook on STM-related subjects, parents were found to be too preoccupied to monitor their children's schoolwork at home, and funding and stakeholder influence on student achievement in STM-related subjects were found to be inadequate and significantly variable. As a result of the research conducted, certain suggestions were made. Three types of intellectual capital are developed through STME instruction and learning: scientists and engineers who will carry on the research and development essential to our country's economic growth; technologically proficient workers who can meet the challenges of a science-based, high-technology workforce; and scientifically literate citizens who can make informed decisions about issues pertaining to science and technology.

Eryılmaz, Hülya (2016) The purpose of this investigation was to examine the impact of a kind of interactive engagement known as peer education augmented with concept test on students' success and dispositions toward the study of physics. Two different pedagogical approaches were employed in this research. There are two types of education systems now in use, (1) traditional instruction and (2) peer instruction that is enhanced by a concept exam. The Physics Attitude Test (PAT), the Physics Achievement Test (PACT), an Observation Checklist (OC), and Physics Teaching/Learning Materials were created for this research. Assessments included the Physics Attitude Test, Physics Achievement Test, and an Observation Checklist. Students' knowledge and perspectives on Newton's Laws of Motion were evaluated using the PACT and PAT, respectively. For the purpose of verifying therapy, OC was used. Literature reviews served as a foundation for the PACT's design. The researcher created the OC. Taslidere's thesis served as the inspiration for the PAT. During the first semester of the 2002-2003 school year, 192 students from three different courses taught by three different professors in the Yenimahalle area of Ankara's public high schools participated in this research. Each educator had two courses included in the analysis. The educators received preparation in the use of Peer Instruction in the classroom. Three classes of students were assigned to the "Traditional Instruction" group, also known as the "control group," while the other three classes were assigned to the "Experimental Instruction" group, where they received instruction from their peers. To evaluate and compare the efficacy of two approaches of teaching used in the physics course, the PAT and PACT were administered twice to both groups, once before and once after a three-week treatment period. Posttest data were evaluated using Multivariate Analyses of Covariance (MANCOVA). According to the data, Peer Instruction is more efficient than Traditional.

3. METHODOLOGY

3.1 Design of the Study

A Research Design, as defined by Claire Selltiz et al. (1991), compiles all of the information and steps necessary to create a study. Assembling the necessary components for data collection and analysis in a way that strives to maximize both efficiency and relevance to the study goal is what this term refers to.

The study's design should also include how the variables will be distributed among the sample and the whole population. Data collection procedures, instrument validity, and statistical analysis methodology should all be detailed. The current investigation was designed to be experimental. The learning outcomes are the dependent variable, and the independent factors to be explored include pedagogical approach, student demographics, geographic location, educational setting, etc.

3.2 Selection of Research Tool

Research Tools refers to the researcher-created and -used methods and procedures for gathering qualitative and quantitative data about the subject at hand. Qualitative and quantitative methods should be used to ensure the tool's dependability, validity, and effectiveness. The researchers used the Likert method for creating the scale since it is more precise. It's formatted like a questionnaire, but it uses more sophisticated methods for choosing its questions. Each scale consists of a list of assertions, with options ranging from 18 to 200. The statements are either 100% positive or 100% negative.

4. RESULTS

4.1 Demographic profile of learners

The population's characteristics are characterized by demographics. The research takes into account participants' ages, sexes, educational backgrounds, employment histories, enrolment and past online learning experiences.

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Table 4.1 Frequency Distribution of Demographic profile of Learners

Variable	Descriptive	Frequency	Percentage
Gender	Male	89	30
	Female	211	70
Age	Below 25	123	41
	25-35	113	38
	Above 35	64	21
Educational Qualification	UG	159	53
	PG	89	30
	Doctorate	52	17

Gender: Table 4.1 shows that men make up 30% of the student body while women account for 70%. A larger proportion of students are women than men.
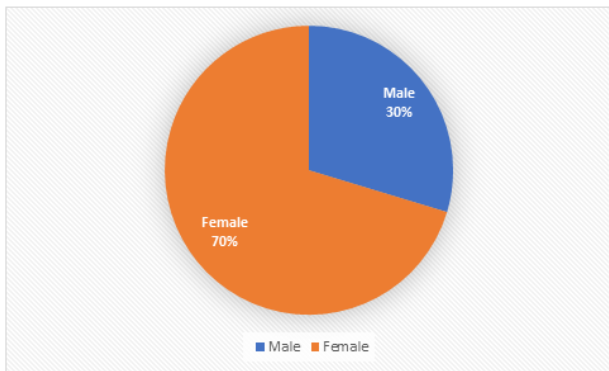

Figure 4.1: Gender

Age Group: According to the data in Table 4.1, over half of all students are under the age of 25, while another third is in their early to mid-30s, and just over a quarter (27%) are in their late-30s or older. Most students are under the age of 25 and hardly any are beyond the age of 35.
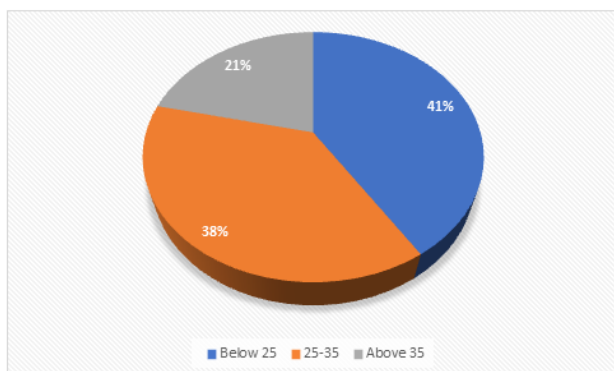

Figure 4.2: Age

Educational Background: Based on the data shown in Table 4.1, we may infer that 53 percent of students are enrolled in undergraduate programs, 30 percent in graduate programs, and 17 percent in doctoral programs. The undergraduate degree program has the highest enrollment rate, followed by the graduate degree program. Most students are enrolled in undergraduate (UG) degree programs since they are young (25).
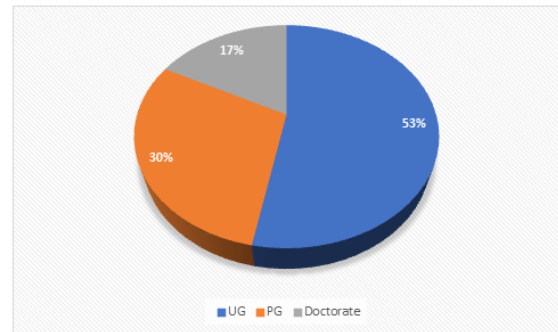

Figure 4.3: Educational Background

4.1.2 Mean and SD of factors

Table 4.2 Mean and SD of Course Quality as perceived by Learners

Course Quality	Mean	SD
Satisfied with the technical stability/reliability	3.342	0.884
Satisfied with the user-friendly interface	3.177	0.834
Able to gain access to the learning site at any time	3.317	0.811
Very accurate, current and related to the course content	3.261	0.802
Information is available at the right level of detail	3.221	0.917
Information is available in the appropriate format	3.193	0.923
Satisfied with the quality/quantity of e-instructional materials	3.269	0.881
Assuring quality in open content remains a challenge	3.264	0.872
Optimal instructions are given for the examinee in Online tests	3.169	0.932
Satisfied with the speed of the Internet	3.565	0.866
Communication quality of the Internet is good	3.615	0.833

Communication quality of the Internet (3.615) is the most significant factor on course quality, followed by satisfaction with the speed of the Internet (3.565), technological stability/reliability (3.342), access to the learning site at any time (3.317), and so on. Online test takers get optimal instructions (3.169), the lowest ranking criteria, followed by test takers' satisfaction with the test's user interface (3.177), test takers' access to relevant information in an easily digestible style (3.193), and so on.

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Table 4.3 Mean and SD of Course Flexibility as perceived by Learners

Course Flexibility	Mean	SD
Taking class/test via the Internet allowed learners to arrange the work for the class more effectively	3.317	0.835
Taking class/test via the Internet allowed learners to spend more time on non-related activities	3.283	0.877
Taking class/test via the Internet allowed learners to arrange the work schedule more effectively	3.289	0.838
Taking class/test via the Internet saved a lot of time commuting to class	3.301	0.885
Taking class/test via the Internet allowed to take a class, learners would otherwise have to miss	3.268	0.862
Taking class/test via the Internet should allow learners to finish the degree more quickly	3.215	0.882
Supports group meetings, chats, instant communications without any physical restrictions	3.415	0.874
Online self-assessments can be taken anywhere/any time	3.157	0.958

Supports group meetings, chats, instant communications without any physical restrictions (3.415) are the most important factor on course flexibility, followed by Taking class/test via the Internet allowed students to arrange their work for the class more effectively (3.317), and Satisfied with the course flexibility overall (3.318). Not having to worry about getting to and from class (3.301) and taking tests online were huge time savers. The lowest criterion is that students may take their online self-assessments whenever and wherever they choose (3.157), followed by the fact that students can complete their degrees sooner if they take their classes and exams online (3.215), and so on.

Table 4.4 Mean and SD of Usefulness as perceived by Learners

Usefulness	Mean	SD
Enables learners to accomplish my learning tasks more quickly	3.339	0.876
Improves learners' ability to accomplish academic tasks	3.299	0.850
Increases learners' productivity in accomplishing academic tasks	3.360	0.793
Enhances learners' effectiveness in accomplishing academic tasks	3.372	0.792
Online learning and assessment methods are useful in study completion	3.415	0.745

Usefulness was most heavily weighted by the mean score for the statement "Internet learning and evaluation techniques are valuable in completing study" (3.415), followed by "Enhances learners' effectiveness in achieving academic assignments" (3.372), etc. Reduces the time it takes to complete my learning objectives is the least important (3.299), followed by the fact that it improves students' capacity to complete academic activities (3.339), and so on.

Table 4.5 Mean and SD of Ease of use as perceived by Learners

Ease of Use	Mean	SD
Easy to accomplish the purpose	3.360	0.765
Online learning system is clear and understandable	3.309	0.807
Online learning system easy to use	3.433	0.775
Learning to operate web-based learning systems would be easy	3.466	0.800

Mean scores show that "Online learning system simple to use" (3.466), "Learning to operate web-based learning systems would be easy" (3.433), "Easy to fulfill the objective" (3.360), and "Online learning system is clear and intelligible" (3.360) are the most essential aspects of "Ease of use" (3.309).

Table 4.6 Mean and SD of ICT Support as perceived by Learners

ICT Support	Mean	SD
Institution provides easy access to internet	3.241	0.873
Institution has up-to-date ICT infrastructure	3.134	0.861
Institution offers orientation module for online learners before their first online course	3.213	0.841
Learners can access central library website and search for materials	3.322	0.774
Learners can get technical support from technicians	3.309	0.788
Support is provided by Staffs who spend part of their time on this task	3.433	0.783
Support is provided by few staffs dedicated for this task	3.180	0.929
Separate departments support online learning and other online services	3.521	0.913
IT support available 24*7 (All days in a week and round the clock support)	2.626	1.110
IT support available from 9 to 5; Weekdays only	2.448	1.127

The most important aspect of ICT support, as determined by the mean score, is that separate departments support online learning and other online services (3.521), followed by Support is provided by Staffs who spend part of their time on this task (3.433), Learners' access to the central library's website for searching for materials (3.322), Learners' access to technical support from technicians (3.309), and so on. Institution possesses cutting-edge ICT infrastructure (3.134), IT support available 9 to 5; weekdays only (2.448), IT support accessible 24*7 (all days of the week and round-the-clock service) (2.626), etc.

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5.   CONCLUSION

This research set intended to compare the efficiency of online education to more conventional means of instruction for secondary school pupils. E-learning has been shown to be more efficient than conventional teaching approaches. However, the research had been undertaken for a small sample within a narrow topic area owing to constraints on time and resources. Still, a larger sample size and confirmation of the results are needed before similar research may be applied to other topics. The learning experience of students may be greatly improved by incorporating e-learning into regular classroom activities. Students in the e-learning group also improved much more than those in the control group, as shown by this research. Researchers, parents, educators, government officials, policymakers, technologists, and the public may all learn something from this research.

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