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Research Article

Correlational Study on Exposure to Technology, Learning Styles and Academic Achievement of Generation Z Learners in Andaman and Nicobar Islands

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ABSTRACT

Technological progress has influenced the way students acquire knowledge and learn. Conversely, the Internet expedites access to information technology across several domains, hence enhancing productivity and conserving time. In particular, innovative approaches to education and learning emphasize the significance of online technology. This is especially crucial for Generation Z (or "Gen Z"), as they are primarily focused on doing rapid searches for information and getting their knowledge from the Internet. However, Learning Styles (LS) express the understanding that each student has a unique way of learning. The preferred method through which a learner takes in, processes, understands and remembers knowledge is referred to as their learning style. The study aims to determine and find out the degree of technological exposure of Gen Z learners, the types of LS of Gen Z learners, and the equal academic accomplishment of Gen Z learners. Initially, the questionnaire data were collected from college students of Andaman Nicobar Island. The 525 students were selected through a simple random sampling technique. It also finds the influence of experience to knowledge and LS on the academic realization of Gen Z learners. This study is analysed on SPSS software, the performed tests are descriptive examination, Pearson correlation, multiple correlation, MANOVA, ANOVA, Chi-square test, and t-test. This investigation showed that there is an important connection between Technology Exposure (TE), LS and academic achievement. The TE and LS of z-learners do not have any influence on the academic attainment of Gen Z learners respectively.

Keywords: Generation Z Learners, Technology Exposure, Learning Styles, Academic Achievement, Andaman and Nicobar Islands, and Random Sampling Technique.

1. INTRODUCTION

The Fourth Industrial Revolution, driven by the rapid advancement of digital technology, has necessitated the development of new worker competencies in critical thinking, communication, cooperation, and creativity. A significant change in how students learn has also been brought about by the digital revolution [Yu, 2020]. Improved operational coordination is needed for collaboration between professors, students, and communities. The shift in lecturers' responsibilities focuses on making them educators who can advocate or create courses to improve learning. Using the internet, the distance learning system's teaching methods can be adjusted to suit the students' preferences. Additionally, it transforms pupils from being learners into self-knowledge seekers [Teeraputon and Nuankaew, 2020]. Recent times have seen rapid changes in the physical environment, culture, society, economics, and technology. It distinguishes present students from past students. The modern youth recognized as Gen Z has distinct personality features, makes speedy decisions, is confident,

and has good technical abilities. For a successful education program, it is essential to support a student in a teaching and learning environment when they are in this age range [Marcial, 2020] [Uzun and Kilis, 2019].
A complete revolution of the classrooms has resulted from the integration of technologies and training approaches brought about by this advancement in education. Due to the ubiquity provided by modern techno-pedagogy, all of this has led to the physical boundaries to learning being broken, and it is now possible to learn anywhere and at any time [López Núñez et al.]. The extent of parental support in their children's education has also been thought to have an impact on student academic achievement, in addition to the calibre of the teachers and schools. To determine whether parental participation in their children's academic activities and academic success are related [Ullah and Kiazai, 2022]. The specific manner a student tries to learn anything is known as their learning style, and it refers to how they perform better on tasks that correspond to their preferences. To enhance student learning, teachers need to be aware of their students' preferred learning styles. But today, it can be challenging to address the different LSs of kids because of the generational divide between teachers and students [Subia et al., 2019].
Hence, the students were given a closed questionnaire, which was analyzed using descriptive preventative analysis. The intention behind the questionnaire is to better understand the respondents' learning preferences so that a better learning strategy may be implemented to enhance vocabulary acquisition [Kharismawati and Hasanah, 2020]. Nursing students from Gen Z exhibit a specific mix of attitudes, social norms, beliefs, and actions that will alter both the nursing profession and education. To determine the most effective and desired teaching techniques for clinical training, it was essential to investigate the social media habits and traits of Gen Z among nursing students [Vizcaya-Moreno and Pérez-Cañaveras 2020]. In [Andheska et al., 2020], a thorough examination of Gen Z students writing motivation and propensity for research proposal writing is done in light of the various cognitive types that each group possesses. Both categories' capacity to write research proposals is significantly impacted by their writing motivation. The conclusions propose that further research be done on different viewpoints and the written language thinking styles of Gen Z pupils.
When compared to traditional paper-based working models, Cevahir*et al* [Cevahir et al., 2022] consider the properties of employing animation-based working examples created using augmented reality technology on high school student's performance, motivation, and attitude. The participants underwent an accomplishment test as a final test and pre-test. To conceptualize how students, behave, how people differ as individuals, and how their academic attainment relates to their learning environment, the Social-Cognitive Theory was adopted. The academic teaching of undergraduates in veterinary science and psychology in addition to their self-reported questionnaire replies about their digital ability and character qualities [Limniou et al., 2021]. Using a behavioural model to quantify Generation Z's adoption of technology, the combined theory of receipt and custom of knowledge is exploited. Data collected from all 150 responders was examined and the results demonstrate that the mainstream of the measured variables have strong and positive relationships [Persada et al., 2019].
The Law students survey [Martzoukou et al., 2022] and the English reading proficiency of students [Stoffelsma and Spooren, 2019] were developed to study students' technology mastery and their digital citizenship mindsets. The ability to identify information in various contexts, students' development and digital learning, their digital capacity for academic achievement, their information knowledge skills, and their capacity for managing their digital identity and well-being were all demonstrated by survey data correlation statistics [Martzoukou et al., 2022]. Therefore, the proposed method is to investigate a study concerning machinery, LS, and academic accomplishment of Gen Z learners. The rest of the work is prepared as follows, section 2 reveals the literature survey of the study, section 3 portrays the research problem definition and motivation, and the proposed research work is exhibited in section 4. Section 5 elucidates the results and discussion section, and section 6 demonstrates the conclusion of the research work.

2. LITERATURE SURVEY

The development of technology has had an impact on how to study and gain knowledge. On the other side, the Internet offers rapid access to information technology across a variety of sectors, which increases productivity and saves time. Particular emphasis is placed on the value of online technology in modern teaching and learning approaches. This is crucial for Gen Z for they get their information from the Internet and are accustomed to finding responses swiftly. An interactive Virtual Reality (VR) teaching tool was developed for geography education by Ozdemir *et al* [2022]. The instructor went over the "Shape and Movements of the Earth" on the slide with the control group of twenty-ninth graders using one of the conventional teaching strategies, expository instruction approaches. The academic presentation of the 20 students in the investigational group outstripped that of the regulator collection with a statistically important difference and discovered that the experimental group's pupils were more motivated.
In a Senior Secondary School (SSS) in Lagos State, Nigeria, Bamiro *et al* [2022] examined whether learning preferences affected students' motivation for economics. In the study, a purposeful random sampling method was applied to pick a sample of 250 SSS Economics students. Several recommendations were made in light of the findings, including the need to support highly inquisitive students, classroom instruction that takes into

account the variety of learning preferences between students, and the need for classroom discussions that allow students to view and consider economic concerns from various angles.

Roashani and Albina [2021] investigated the educational presentation and learning style of Gen Z learners. The Andaman and Nicobar Islands' college students structure the study's population. To control whether there are any notable differences between college students' LS and their components regarding background factors such as mainstream, gender, and region. The findings such as (a) have no discernible impact on academic achievement; (b) pupils' academic recital is not statistically substantially different based on the method of their study. Designing proper adaptable e-learning environments helps to customize instruction to reinforce learning objectives since adaptive e-learning is seen as a stimulus to enhance learning and increase student engagement. As a result, El-Sabagh [2021] created an adapted e-learning atmosphere according to what was learned preferences of his students and investigated how the flexible online learning platform affected the engagement of his pupils. When creating a flexible online learning environment, development methodology was employed to create a quasi-experimental study design. To boost the involvement of students, the anticipated adaptive e-learning strategy and the findings can assist e-learning institutions in creating environments that are more specialized and flexible.

Women studying tourism and hospitality from Gen Z in India were trained by Kautish*et al* [2022] in the VUCA skillset to comprehend the association among career beliefs, social support, and career self-efficacy. With the support of structural equation modelling, data from 655 female students studying tourism and hospitality in the northeastern part of India were gathered. However, VUCA is not significantly impacted by a career belief result. A descriptive, cross-sectional strategy was employed by Hampton *et al* [2020] to determine the instructional strategies utilized with Gen Z nursing students. The regular classroom format was chosen by the students over the flipped classroom. The aspect of engagement that this set of students rated as being most important was learning new skills. Gen Z students may benefit from engaging lectures that custom relevant visual aids, audience participation, and circumstance studies in addition to videos, and simulations.

To explore how Gen Z is supported by information communication and technology (ICT) in the schoolroom and the growth of their workforce readiness skills, Paulina and Ernawati [2022] utilized a qualitative approach with a literature study style. For digital natives, Ben *et al* [2022] investigated the digital divide in France and the properties of ICT custom and digital literacy on students' academic concert. For data analysis, three methods were employed: multilevel ordered logistic regression, principal component analysis, and non-hierarchical k-means clustering. According to the research, students were impacted by poor ICT investments, ICT training provided by institutions has little effect on students, innovative and collaborative ICT expenditure enhances student performance, and having digital skills boosts academic success.

Szymkowiak *et al* [2021] examined the types of information acquisition that Gen Z selects to ascertain how equipment and the Internet disturb this generation's process of knowledge acquisition. A study of 498 young individuals who regularly participate in an online community for peer-to-peer knowledge sharing was completed. The results demonstrated that pupils tended to copy their lecturers who utilized contemporary technologies for learning outside of traditional classroom settings. Using Transactional Distance Theory and Bloom's Taxonomy Theory, Abuhassna *et al* [2020] studied aspects that can affect students. This study focused on 243 college students who applied to online learning environments. A quantitative research methodology was employed for this study. Eleven criteria are illustrated in the research model for using online learning environments to raise students' academic accomplishment and pleasure. There was a strong correlation between students' academic realization and their application, retention, comprehension, analysis, and satisfaction. Exploiting online learning podiums to enhance students' academic victory and satisfaction may assist decision-makers in universities, institutions of advanced education, and colleges in developing, assessing, and implementing online learning platforms inside their organizations (Shiva Shankar Reddy et al., 2022; Shankar et al., 2021; Reddy Shiva Shankar et al., 2023; Shiva Shankar Reddy et al., 2023; Shiva Shankar et al., 2022).

3. RESEARCH PROBLEM DEFINITION AND MOTIVATION

Gen Z is the youngest generation of students to attend school. Similar to millennials, this generation of pupils has experienced more experience to knowledge in the teaching space. They are also both identifiable by their propensity for multitasking and openness to utilizing technology. Millennial and Gen Z students differ from one another in terms of communication styles, learning methods, preferred forms of feedback, degree of technology expenditure, online social networking, and attitudes towards taking risks, despite these commonalities. Millennials are proficient in technology, favour blended learning and a collaborative learning environment, and have strong interpersonal and online communication abilities. They are idealistic risk-takers, well-connected on social media, and seek out hasty, helpful feedback. Each person has an individualized learning style influenced by their strengths and weaknesses. Finding a means for Gen Z students to enhance their LS and information flow throughout their academic years is therefore crucial.

Gen Z is an interesting crossover from the previous Millennial Generation. Even the years overlap since the majority of Millennials were born between 1980 and 2000. The iGeneration, also known as Gen Z, has always had internet connectivity, iPods, and iPhones, even though their fashion sense is more millennial than

traditional. This instantaneous retrieval and transmission of information may significantly impact their preferred method of learning. This was based on the theoretical assumption that technology is most effectively applied in the seminar room when students procedure technology as a cognitive tool. In this way, the student's obligation to apply problem-solving processes and employ higher-order reasoning strategies leads to cognitive growth. As such, the technology becomes a "mind-extension cognitive tool". When students consume technology as a tool that fosters higher-order thinking skills, how students learn changes; thus, technology has a direct favourable effect on student's achievement. This motivates the research to study the correlation of publicity to equipment on both LS and academic achievement.

4. PROPOSED RESEARCH METHODOLOGY

Every student has a unique learning style. The things that influence their LS also define their personalities. Aside from that, it is obvious that a student's unique LS has a big influence on their achievement in school. The objective of this research is to study the correlation between coverage to technology, LS, and academic success of Gen Z learners. Research on LS has been cross-sectional and focused on parameters such as age, gender, urban, rural, and personality. Investigators explored gender differences in LS and how this variable relates to academic enactment. Further, the study was completed to look into the extent of association between students' LS and academic achievement. The LS record questionnaire was applied to measure students' LS through a survey. Students attending colleges on Andaman Nicobar Island constitution the study's population. Stratified random sampling was the method employed by the investigator.

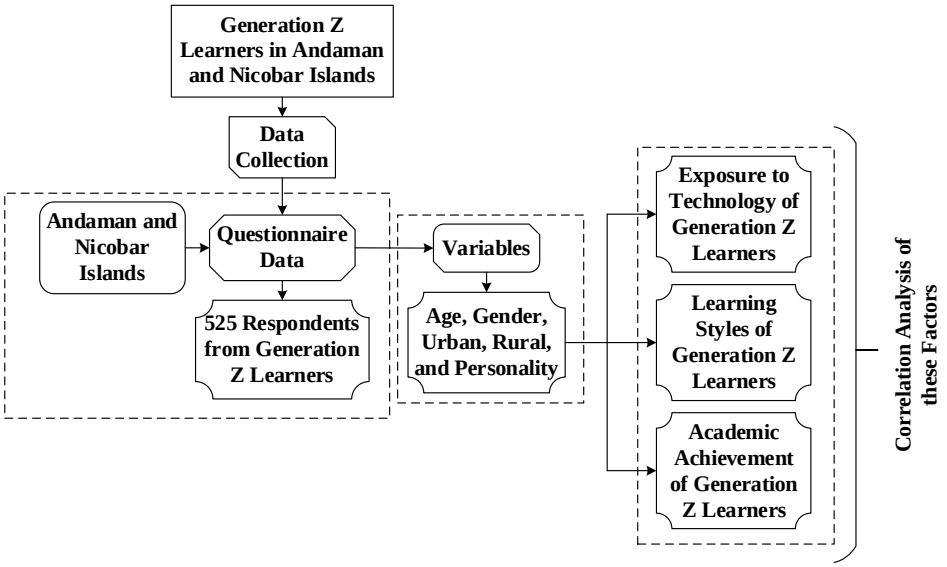

Figure 1: Flow Diagram of the Proposed Work

The flow diagram of the suggested Figure 1 displays the work. In this research, the TE, Learning Style and Academic Success of Gen Z Learners are analyzed. This analysis was conducted for boys and girls, rural and urban area students, below 12 years, 13 to 17 years, and 17 to 24 years students of z-learners. The detailed analysis of this research was performed as follows.

Learning Styles

In the 1970s, the phrase "learning styles" first arose in educational literature. Similar words have been applied interchangeably with it, such as thinking style and cognitive style. According to Curry, there are 21 models for learning styles. The Oxford American College Dictionary describes style generally as, "A way of behaving or approaching a situation that is characteristic of or favoured by a particular person." From a psychological perspective, style is much more complex, especially in the context of formal education. As a result, a true definition has never been agreed upon.

Learning Styles and Disparities in Gender

While women most closely align with the Assimilator learning style, men are additionally able to adopt the Assimilator learning style, which correctly matches traditional teaching. Most research indicates that the four learning modes can typically be allocated evenly across the wished LS of females and males; however, there is significant evidence suggesting a discrepancy between the sex's scores in the abstract concrete dimension of learning. Research indicates that while men score more on the abstract conceptualizing side of the continuum, women score higher in the concrete learning mode. Women who learn well through hands-on experiences, intuitive or feeling-based judgements, people-orienteers, and a general comfort level with uncertainty are characteristics of tangible experience learning women. They are exceptionally good at figuring out difficulties,

leading, taking initiative, envisioning, brainstorming, and understanding people. Additionally, males who are more comfortable with abstract thinking learn analytically, reason logically, and deal with structure and symbols.

4.1 The study's objective

The objectives of this investigation are given as follows:

- To ascertain the extent of Gen Z learners' disclosure of technology.
- To identify the types of LS of Gen Z learners.
- To learn the level of academic success of Gen Z learners.
- To classify the influence of revelation to technology and LS on the academic teaching of Gen Z learners.

4.2 The study's hypothesis

The following Hypothesis study helps to analyse the correlation between coverage to technology, LS, and academic achievement.

Exposure to Technology of Generation Z Learners

- There is no important alteration among boys and girls in their level of technology experience.
- There is no substantial transformation between students from both urban and rural areas in their level of contact with technology.
- There is no important dissimilarity among those below 12 years, 13 to 17 years, and 17 years to 24 years' students in their level of acquaintance with technology.

Learning Styles of Generation Z Learners

- There is no substantial transformation among girls and boys in their types of LS linguistic, logical, spatial, musical, kinaesthetic, interpersonal, or intrapersonal learning styles.
- There is no momentous alteration among students from both urban and rural areas in their types of learning styles-linguistic, logical, spatial, musical, kinaesthetic, interpersonal, and intrapersonal learning styles.
- There is no important difference among below 12 years, 13 to 17 years, and 17 years to 24 years' students in their types of learning styles-linguistic, logical, spatial, musical, kinaesthetic, interpersonal, and intrapersonal learning styles.

Academic Achievement

- Boys and females don't differ much from one another in their level of academic achievement
- The differences between students in urban and rural areas are negligible. in their level of academic achievement
- There is no substantial difference between below 12 years, 13 to 17 years, and 17 years to 24 years' students in their level of academic achievement
- There is no important association between experience in technology, LS and academic achievement

Relationship among Exposure to Technology, Academic Performance and Learning Styles Achievement

- There is no momentous correlation between coverage of technology and the LS of Gen Z learners.
- There is no insignificant connection between revelation to technology and the academic accomplishment of Gen Z learners.
- There is no important connection between LS and the academic success of Gen Z learners.

Influence of Exposure to Technology and the Consequence of Learning Styles on Academic Performance

- There is no substantial influence of experience to technology and LS on the academic attainment of Gen Z learners.

Factor Analysis of Exposure to Technology, Learning Styles on Academic Achievement

- There is no main factor with positive loading of the variables namely experience with technology, LS, and academic teaching of Gen Z learners.

4.3 Materials and Methods

During the research, quantitative data were collected. The quantitative study aimed to compare the test results of exposure level of technology, LS of students like linguistic, logical, spatial, musical, kinaesthetic, interpersonal, and intrapersonal LS, and their academic achievements. This work analyses or compares the TE level of boys and girls, the TE level of rural and urban area students, and the TE level of Z learners under the age of 12 years, between 13 to 17 years, and between the ages of 17 and 24. In addition, the work that was

presented examined Z learners' linguistic, logical, spatial, musical, kinaesthetic, interpersonal, and intrapersonal learning preferences. This kind of educational approach was compared among boys and girls, rural and urban area students, and the method of learning of students under the age of 12 years, between 13 to 17 years, and 17 to 24 years. Nonetheless, the academic presentation of the pupils was also examined of gender, students from rural and urban areas, and the age groups of under 12, 13–17, and 17–24 years old, respectively. Accordingly, the present study compared the equality of experience to technology, learning style, and academic success of z-learners.

Method and Tools Used within this Study

The survey method was selected for the current study. The occurrence, distribution, and correlations of sociological and educational factors are the subjects of survey research. The survey is a procedure in which data are systematically collected from a population through some direct solicitations such as face-to-face interviews, questionnaires or schedules, and observation.

The populace of the Study

Andaman Nicobar Island college students formed the study's population. The method of stratified random sampling was employed by the investigator. Here, 525 school and college students are randomly selected from different colleges. To determine whether learners' levels of TE differ noticeably from one another, LS, and academic achievements variables such as level of experience with technology (gender, location, and age group), learning style (gender, location, and age group) and academic success (gender, location, and age group).

Research Design

A correlation study was shown to determine the correlations between technological exposure and learning style impression on students' hypothetical recitals. The nature of this research was quantitative which aimed at finding out the close of revelation to technology of Gen Z learners, the types of LS of Gen Z learners, and the glassy of academic success of Gen Z learners. The present study provided the influence of coverage to technology and LS on the academic realization of Gen Z learners. Primary data was collected from parents and students through different questionnaires.

Data Collection

The researcher visited different schools and college students for data collection. For this purpose, 572 SSS were selected for primary data collection through a simple random sampling technique. 525 students were selected from college and school students of Andaman Nicobar Island. The researcher selected Sample College conveniently to get primary data from students. The students were selected through a simple random sampling technique in each school and college. The students were selected conveniently for primary data collection.

Data Analysis Tools

The collected data were analyzed through a statistical package for social sciences SPSS version-22. For examination of the data, correlation, frequency distribution and evocative investigation were applied to ascertain the association among technology publicity level, learning style, and student's academic achievement. The analyzed data was presented as an example of tables and explanations.

5. RESULT AND DISCUSSION

The Statistical Package for Social Sciences (SPSS) tool was exploited for the analysis of questionnaire data. A structured SPSS-based data collection was utilized for expressive enquiry, regression, and correlation analysis. The affiliation among dependent and independent variables is estimated in the statistics model. Accordingly, the tools employed to simulate the proposed system are displayed in the subsequent table 1.

Table 1: Simulation System Configuration

SPSS Statistical Tool	Version 23.0
Operation System	Windows 10 Home
Memory Capacity	6GB DDR3
Processor	Intel Core i5 @ 3.5GHz

The questionnaire for this study is designed based on a comprehensive list of possible variables to clarify the efficiency of management education and associate them consequently. Gen Z learners responded to each question for the equal experience technology, learning style, and academic attainment of boys and girls both in rural and urban regions students under the age of 12 years, 13 to 17 years, and 17 to 24 years.

Descriptive Statistics

A statistical analysis method called descriptive statistics concentrates on data management, presentation, and categorization to characterise the state of the data. With this process, the data presented will be more attractive,

easier to understand, and able to provide more meaning to data users. In this investigation, the descriptive statistics are analysed for TE, learning style, and academic accomplishment of z-learners. This analysis is presented for boys, girls, rural and urban area students, below 12 years, 13 to 17 years, and 17 to 24 years' students. These analyses are performed as follows.

Table 2: Descriptive Statistics for TE of Generation Z-Learners

Descriptive Statistics									
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**	**Skewness**		**Kurtosis**	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BTE	525	5	30	18.62	5.820	.205	.107	-1.051	.213
GTE	525	7	39	18.96	5.947	.217	.107	-1.037	.213
UTE	525	7	39	19.22	6.023	.139	.107	-1.080	.213
RTE	525	6	54	19.20	6.157	.429	.107	.589	.213
B12_TE	525	6	30	19.03	5.981	.108	.107	-1.199	.213
13-17 TE	525	7	31	19.53	5.806	.098	.107	-1.221	.213
17-24 TE	525	7	30	19.34	5.970	.113	.107	-1.231	.213
Valid N (listwise)	525	-	-	-	-	-	-	-	-

Table 2 depicts the descriptive statistics test of TE of Z-learners. From the output shown above, know that the average boy and girl's level of TE is 18.62 and 18.96 with a standard deviation (SD) of 5.820. However, the average TE level of rural and urban area students is 19.20 and 19.22 with standard deviations is 6.157 and 6.023. Consequently, the average TE level of z learners under the stages 12, 13 to 17, and 17 to 24 are 19.03, 19.53, and 19.34 with the SD of 5.981, 5.806, and 5.970, respectively.

Table 3: Descriptive Statistics for Academic Achievement of Gen Z-Learners

Descriptive Statistics									
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**	**Skewness**		**Kurtosis**	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
BAA	525	7	46	19.20	5.913	.330	.107	-.397	.213
GAA	525	7	32	18.90	5.788	.277	.107	-1.020	.213
UAA	525	6	36	18.76	6.106	.295	.107	-1.020	.213
RAA	525	7	36	19.19	5.926	.241	.107	-1.002	.213
B12_AA	525	7	35	18.60	5.768	.272	.107	-1.017	.213
13-17_AA	525	7	36	19.27	6.073	.228	.107	-1.119	.213
17-24_AA	525	9	36	18.90	6.071	.305	.107	-1.039	.213
Valid N (listwise)	525	-	-	-	-	-	-	-	-

Table 3 represents the descriptive statistical evaluation of the academic success of Z-learners. The descriptive command can be exploited to determine measures of central tendency (mean), measures of dispersion (range, standard deviation, variance, minimum and maximum), and measures of kurtosis and skewness. From this table, the average academic realization level of girls and boys is 19.20 and 18.90 with the SD of 5.913 and 5.788. The average academic getting level between urban and rural area students is 18.76 and 19.19 with the SD of 6.106 and 5.926. However, the academic reaching levels of z learners under the oldness of 12, 13 to 17, and 17 to 24 are 18.60, 19.27, and 18.90 with their SD of 5.768, 6.073, and 6.071.

Product Moment Correlation

The degree and direction of the association among two variables that are assessed on at least an interval scale are expressed as Pearson product-moment correlation coefficient (PPMCC), or Pearson's correlation for short. The PPMC analysis for the variables TE, learning style, and academic success is analysed as follows.

Table 4: Pearson Product-Moment Correlation Analysis for TE

Correlations			
		BTE	**GTE**
BTE	Pearson Correlation	1	.207**
	Sig. (2-tailed)		.000
	N	525	525
GTE	Pearson Correlation	.207**	1
	Sig. (2-tailed)	.000	
	N	525	525
**. A significant correlation is found at the 2-tailed 0.01 level.			

The results PPMC analysis for TE are presented in Table 4, the correlations are replicated. It presents the boy's and girls' TE levels. The correlation coefficient of Pearson r is 0.207, and it is statistically momentous ($p = 0.000$). From this result, it is depicted that an important association between boys and the PCC r between urban and rural area students is 0.089, and it is statistically substantial ($p = 0.42$). From these results, it is depicted that there isn't an important transformation between students from both urban and rural areas in their near revelation to technology. Accordingly, the PPMC for TE of Z-learners under the period of 12, 13 to 17 years, and 17 to 24 years are performed. It depicted that the PCC r is 0.185 for ages under 12 and 13 to 17, and 0.197 for the ages of 13 to 17 and 17 to 24, and it is statistically important of ($p = 0.000$, and$p = 0.419$). There is no important modification among those below 12 years, 13 to 17 years, and 17 years to 24 years' students in their equal disclosure to technology.

Table 5: Pearson Product-Moment Correlation Analysis for Learning Style

Correlations			
		Rling_LS	**Uling_LS**
Rling_LS	Pearson Correlation	1	.001
	Sig. (2-tailed)		.973
	N	525	525
Uling_LS	Pearson Correlation	.001	1
	Sig. (2-tailed)	.973	
	N	525	525

The PPMC analysis of the method of learning that z-learners is analysed in this investigation. The factors analysed in this learning style are linguistic, logical, spatial, musical, kinaesthetic, interpersonal, or intrapersonal learning styles. The analysis is presented for these LS of Z-learners for boys, girls, rural and urban area students, and below age 12 years, 13 to 17 years, and 17 to 24 years students. There is an important alteration concerning boys and girls in their types of LS linguistic, musical, kinaesthetic, and intrapersonal learning styles. However, there is a very low correlation among boys and girls in their types of LS logical, and interpersonal learning styles. Accordingly, there is no important modification among girls and boys in their types of spatial learning styles.

Consequently, the PPMC analysis of the method of learning that z-learners in terms of rural and urban area students is also presented in this study. Table 5 represents the PCC analysis of rural and urban area students in rapports of linguistic learning style. The study portrayed a low correlation between students from both urban and rural areas in their types of LS linguistic, spatial, musical, kinaesthetic, and interpersonal learning styles. However, there is no importance concerning rural and urban students in their types of learning styles- logical, and intrapersonal learning styles.

Accordingly, the PPMC analysis of ages under 12 years, 13 to 17 years, and 17 years students' learning styles. It presented that there is an undesirable connection among ages below 12 years, 13 to 17 years, and 17 to 24 years students linguistic learning style, 13 to 17 years, and 17 to 24 years students' logical LS, 12 years and 13 to 17 years spatial LS, below 12 years and 17 to 24 years students' musical LS, 13 to 17 years and 17 to 24 years students' kinaesthetic LS, below 12 years and 13 to 17 years students' interpersonal LS, and below 12 years and 13 to 17 years students' intrapersonal learning styles. However, there is a low significant relation between 13 to 17 years and 17 to 24 years students' linguistic LS, below 12 and 13 to 17 years, and below 12 and 17 to 24 years students' logical LS, B12, and 17 to 24 years, 13 to 17 and 17 to 24 years students' spatial LS, B12 and 13 to 17 years, and 13 to 17 and 17 to 24 years students' musical LS. There is a low correlation between students below 12 and 13 to 17, below 12 and 17 to 24 years students' kinaesthetic LS, below 12 and 17 to 24, 13 to 17 and 17 to 24 years students' interpersonal LS, and intrapersonal LS.

Table 6: Pearson Product-Moment Correlation Analysis for Academic Achievement

Correlations			
		BAA	**GAA**
BAA	Pearson Correlation	1	.216**
	Sig. (2-tailed)	-	.000
	N	525	525
GAA	Pearson Correlation	.216**	1
	Sig. (2-tailed)	.000	
	N	525	525
**. Correlation is important at the 0.01 level (2-tailed).			

The PPMC analysis for Academic Getting of boys and girls, rural and urban area students, below 12, 13 to 17 years, 17 to 24-year students AA level is also analysed in this analysis. Table 6 displays the model Pearson correlation analysis for the AA level in this case. These results depicted that there isn't substantial modification amongst boys and girls in their level of academic achievement, which produces a higher Pearson correlation of 0.216. However, there is no important alteration among students from both urban and rural areas in their level of academic accomplishment, and their Pearson correlation ratio is 0.223, which is statistically momentous ($p = 0.000$). Accordingly, there is no momentous difference among below 12 years, 13 to 17 years, and 17 years to 24 years' students in their level of academic accomplishment and their Pearson correlation is 0.182, 0.114, and 0.203.

MANOVA Test

An expansion of the univariate analysis of variance (ANOVA) is the multivariate ANOVA. The study observes statistical alterations in a single incessant dependent variable through an independent grouping factor. Several continuous dependent variables are taken into and combined into a prejudiced linear grouping, or compound adjustable, using the MANOVA, which expands on this analysis. The MANOVA will associate whether or not the recently produced combination differs using the various levels, or groups, of the sovereign adjustable. Essentially, the MANOVA ascertains whether the dependent variable and the independent grouping variable together contribute to a statistically significant fraction of the modification in the latter.

Table 7: Multivariate Tests of Boy for Academic Achievement

Multivariate Tests							
Effect		**Value**	**F**	**Hypothesis df**	**Error df**	**Sig.**	**Partial Eta Square**
Intercept	Pillai's Trace	.803	1014.012[b]	2.000	499.000	.000	.803
	Wilks' Lambda	.197	1014.012[b]	2.000	499.000	.000	.803
	Hotelling's Trace	4.064	1014.012[b]	2.000	499.000	.000	.803
	Roy's Largest Root	4.064	1014.012[b]	2.000	499.000	.000	.803
BAA	Pillai's Trace	.119	1.323	48.000	1000.000	.072	.060
	Wilks' Lambda	.884	1.323[b]	48.000	998.000	.072	.060
	Hotelling's Trace	.127	1.322	48.000	996.000	.073	.060
	Roy's Largest Root	.079	1.636[c]	24.000	500.000	.030	.073
a. Design: Interrupt + BAA							
b. Exact value							
c. The significance level's lower bound is derived from the statistic, which is a maximum value on F.							

The Multivariate tests are presented in table 7, where, find the actual result of the one-way MANOVA. First, essential to appearance at the second Consequence, labelled Boys' academic realization, and the Wilks' Lambda row. To regulate whether the one-way MANOVA was statistically momentous as "Sig" as 0.72. From the table the "Sig." value of 072, 0.073, which means $p < .0005$.

Table 8: Multivariate Tests of Girls for Academic Achievement

Multivariate Tests							
Effect		**Value**	**F**	**Hypothesis df**	**Error df**	**Sig.**	**Partial Eta Squared**
Intercept	Pillai's Trace	.887	1956.363[b]	2.000	500.000	.000	.887
	Wilks' Lambda	.113	1956.363[b]	2.000	500.000	.000	.887
	Hotelling's Trace	7.825	1956.363[b]	2.000	500.000	.000	.887
	Roy's Largest Root	7.825	1956.363[b]	2.000	500.000	.000	.887
GAA	Pillai's Trace	.082	.933	46.000	1002.000	.601	.041
	Wilks' Lambda	.919	.933[b]	46.000	1000.000	.602	.041
	Hotelling's Trace	.086	.932	46.000	998.000	.602	.041
	Roy's Largest Root	.055	1.197[c]	23.000	501.000	.241	.052
a. Design: Interrupt + GAA							
b. Exact value							
c. A lesser certainty on the significance equal is obtained from the statistic, which is a maximum value on F.							

Table 8 portrays the multivariate tests of girls for AA in the MANOVA test. Wilk's Lambda value in this test explains how strong the relationship is in that it contains 0.919. The value is always in the range of 0 to 1. This value is almost exactly one. The value for the variable GAA is 0.919 which is close to 1.

Table 9: Technology Usage and Academic Achievement in Z Learners

Multivariate Tests							
Effect		**Value**	**F**	**Hypothesis df**	**Error df**	**Sig.**	**Partial Eta Squared**
Intercept	Pillai's Trace	.895	1268.561[b]	2.000	297.000	.000	.895
	Wilks' Lambda	.105	1268.561[b]	2.000	297.000	.000	.895
	Hotelling's Trace	8.542	1268.561[b]	2.000	297.000	.000	.895
	Roy's Largest Root	8.542	1268.561[b]	2.000	297.000	.000	.895
BTE	Pillai's Trace	.116	.767	48.000	596.000	.874	.058
	Wilks' Lambda	.887	.764[b]	48.000	594.000	.876	.058
	Hotelling's Trace	.124	.762	48.000	592.000	.879	.058
	Roy's Largest Root	.070	.868[c]	24.000	298.000	.646	.065
GTE	Pillai's Trace	.105	.714	46.000	596.000	.922	.052
	Wilks' Lambda	.898	.715[b]	46.000	594.000	.921	.052
	Hotelling's Trace	.111	.716	46.000	592.000	.920	.053
	Roy's Largest Root	.079	1.021[c]	23.000	298.000	.439	.073
BTE * GTE	Pillai's Trace	.693	.883	358.000	596.000	.903	.347

	Wilks' Lambda	.427	.880[b]	358.000	594.000	.908	.347
	Hotelling's Trace	1.061	.878	358.000	592.000	.914	.347
	Roy's Largest Root	.547	.910[c]	179.000	298.000	.754	.354
a. Design: Interrupt + BTE + GTE + BTE * GTE							
b. Exact value							
c. When an inferior destined on the degree of significance is obtained from the statistic, a maximum value on F is produced.							

The multivariate tests Table 9 displays four tests of significance for each model effect. Similar to univariate testing, the "ratio" between the error matrix and the hypothesis SSCP matrix is utilized to assess the effects of interest. The test matrix's eigenvalues, which are determined by the error's inverse and the matrix product of the correct hypothesis SSCP matrix SSCP matrix, are employed, more specifically, to compute the data in the table of multivariate tests. It presents the asset of the relationship as 0.887 and 0.898 for boys' and girls' TE levels.

Multiple Correlation

The supreme degree of linear relationship that may established amongst two or more autonomous variables and one dependent variable is indicated by a multiple correlation coefficient (R).

Table 10: TE to the Academic Achievement and Learning Style for 17 to 24-Year Students

ANOVA[a]						
Model		**Sum of Squares**	**DF**	**Mean Square**	**F**	**Sig.**
1	Regression	396.142	8	49.518	1.398	.195[b]
	Residual	18277.184	516	35.421		
	Total	18673.326	524			
a. Dependent Variable: 17-24 TE						
b. Predictors: (Constant), 17-24_AA, 17-24 Spa_LS, 17-24 Intra_LS, 17-24 Kinae_LS, 17-24 ling_LS, 17-24 Inter_LS, 17-24 Mus_LS, 17-24 Log_LS						

Table 10 represents the TE to the manner of acquiring knowledge and academic realization of 17 to 24-year students. The ANOVA test results depicted that the value of F is 1.398, which reaches significance with a p-value of 0.195 (which is lower than the .05 alpha level). This indicates a statistically significant meaningful variation between the incomes of the various education variable levels.

Table 11: Boys in TE to the manner of Education and Academic Achievement

ANOVA[a]						
Model		**Sum of Squares**	**DF**	**Mean Square**	**F**	**Sig.**
1	Regression	144.264	8	18.033	.529	.835[b]
	Residual	17605.545	516	34.119		
	Total	17749.810	524			
a. Dependent Variable: BTE						
b. Predictors: (Constant), BAA, Bling_LS, BKinae_LS, BSpa_LS, BIntra_LS, BLog_LS, BInter_LS, BMus_LS						

Table 11 shows the output of the ANOVA analysis for TE regarding the learning style and Academic Realization of boy students. From this table, the significance value is 0.083, which is greater than 0.05, therefore, a statistically significant important relation between TE regarding learning style and academic achievement.

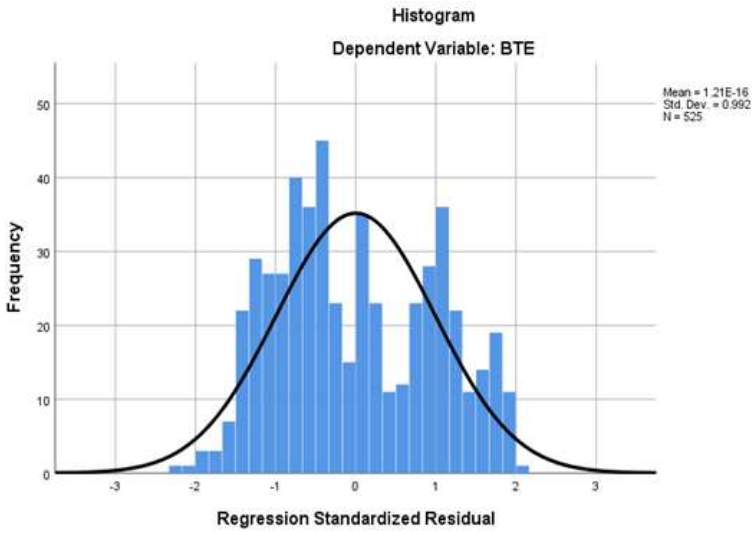

Figure 2: Distribution Plot of Regression Standardized Residual

Figure 2 shows the normal distribution plot of the regression standardized residual, which does not show any specific pattern. The standardized residuals against predicted values present a random pattern centred in the vicinity of zero standard residual value. Therefore, there is no clear connection between the residual and the predicted values. Thus, the regression model assumptions are considered and verified.

Table 12: Girls in TE to the Manner of Education and Academic Achievement

ANOVA[a]						
Model		**Sum of Squares**	**DF**	**Mean Square**	**F**	**Sig.**
1	Regression	469.097	8	58.637	1.675	.102[b]
	Residual	18063.063	516	35.006		
	Total	18532.160	524			
a. Dependent Variable: GTE						
b. Predictors: (Constant), GAA, GIntra_LS, GKinae_LS, Gling_LS, GSpa_LS, GMus_LS, GInter_LS, GLog_LS						

Table 12 shows the girl's TE to their knowledge style and academic achievement. The ANOVA output, (ANOVA) is the key table for it shows whether the overall F ratio for the ANOVA is significant. That is F ratio (1.675) is significant ($p = 0.102$) at the .05 alpha level.

Chi-Square Test

A Chi-square test of the p-value that is equivalent to or less than the significance level suggests there is enough data to determine that the experiential distribution is not similar to the expected distribution.

Table 13: Chi-square tests of

Chi-Square Tests			
	Value	**df**	**Asymptotic Significance (2-sided)**
Pearson Chi-Square	650.311[a]	600	.076
Likelihood Ratio	526.176	600	.986
Linear-by-Linear Association	.743	1	.389
N of Valid Cases	525		
a. 650 cells (100.0%) have an expected count of less than 5. A minimum of.00 is the anticipated count.			

Table 13 represents the chi-square test of academic achievement. The chi-square statistic appears in the Value column immediately to the right of "Pearson Chi-Square". The significance of the chi-squared value is 650.311, and the p-value (0.076) performs in the same line within the "Asymptotic Significance (2-sided)" column. The outcome is noteworthy if this worth is identical up to or below the specified alpha threshold (normally 0.05). The null suggestion, which conditions that the two variables are self-governing of one another, would be rejected in this instance since the p-value is lower than the conventional alpha value.

T-Test Analysis

The groups are different when the t-score, also recognized as the t-value, is large, and similar when the t-score is small. Degrees of autonomy denote the values in a research project that are flexible to vary and are essential for assessing the importance and the reliability of the null supposition.

Table 14: T-Test Analysis of Academic Achievement

One-Sample Test						
	Test Value = 45					
	t	df	Sig. (2-tailed)	Mean Difference	95% Assurance Interval of the Variance	
					Lower	Upper
BAA	-99.987	524	.000	-25.802	-26.31	-25.29
GAA	-103.317	524	.000	-26.099	-26.60	-25.60

Table 14 reveals the t-test analysis of academic achievement. The t-value in the t-table for two distributions with 524 samples, t value as -99.987 for boys in their academic achievement, and -103.317 for girls in their academic achievement. The importance of the 2-tailed value is 0.000.

6. RESEARCH CONCLUSION

Gen Z, the term for people born between the middle and end of the 1990s, is becoming more and more common. Gen Z students will certainly come to the university with different experiences and skill sets than Generation X. New educational techniques will seek to address these differences but they will also simply be grounded in good pedagogy. In this investigation, the influence of acquaintance with technology and LS on the academic accomplishment of Gen Z learners is studied. The correlation between experience with technology, learning style, and academic attainment is analysed for Gen Z learners. The information from the questionnaire was composed of 525 respondents of Gen Z learners from Andaman Nicobar Islands. These questionnaires the data obtained from the survey was different age groups of z learners under 12 years, 13 to 17 years, and 17 to 24 years, respectively. This study finds out the significant influence of disclosure to technology and LS on the academic teaching of Gen Z learners. The proposed questionnaire data are analysed using SPSS software. The proposed analysis is performed as evocative enquiry, Pearson correlation, multiple correlation, MANOVA, ANOVA, Chi-square test, and t-test. These results depicted a momentous association between acquaintance with technology and the LS of Gen Z learners, experience with technology and the academic reaching of Gen Z learners, and LS and academic reaching of Gen Z learners. The conclusions of the study depict that TE and learning style have a significant influence on the academic accomplishment of z-learners. Furthermore, the influence of technology usage and metacognitive consciousness of SSS on academic success is analysis is performed in future studies.

Abbreviations

Gen Z	Generation Z
VR	Virtual Reality
VUCA	Volatility, Uncertainty, Complexity and Ambiguity
ICT	Information Communication and Technology
SPSS	Statistical Package for Social Sciences
TE	Technology Exposure
BTE	Boys in Technology Exposure
GTE	Girls in Technology Exposure
UTE	Urban Students in Their Degree of Exposure to Technology
RTE	Rural Students in Their Degree of Exposure to Technology
B12_TE	Below 12 Years Students in their Degree of Exposure to Technology
13-17 TE	13 to 17 Years Students in their Degree of Exposure to Technology
17-24 TE	17 to 24 Years Students in their Degree of Exposure to Technology
AA	Academic Achievement
BAA	Boys in Academic Achievement
GAA	Girls in Academic Achievement
UAA	Urban Students in Academic Achievement
RAA	Rural Students in Academic Achievement
B12_AA	Below 12 Years Students in Academic Achievement
13-17_AA	13 to 17 Years Students in Academic Achievement
17-24_AA	17 to 24 Years Students in Academic Achievement
SD	Standard Deviation
LS	Learning Style

Rling_LS	Rural Students in Their Types of Linguistic Learning Style
Uling_LS	Urban Students in Their Types of Linguistic Learning Style
MANOVA	Multivariate Variance Analysis
ANOVA	Analysis of Variance
SSCP	Sum-of-Squares and Cross-Products
Bling_LS	Boys in their Types of Linguistic Learning Style
BKinae_LS	Boys in their Types of Kinaesthetic Learning Style
BSpa_LS	Boys in Their Types of Spatial Learning Style
BIntra_LS	Boys in their Types of Intrapersonal Learning Style
BLog_LS	Boys in their Types of Logical Learning Style
BInter_LS	Boys in their Types of Interpersonal Learning Style
BMus_LS	Boys in their Types of Musical Learning Style
GIntra_LS	Girls in their Types of Intrapersonal Learning Style
GKinae_LS	Girls in their Types of Kinaesthetic Learning Style
Gling_LS	Girls in their Types of Linguistic Learning Style
GSpa_LS	Girls in their Types of SpatialLearning Style
GMus_LS	Girls in their Types of Musical Learning Style
GInter_LS	Girls in their Types of Interpersonal Learning Style
GLog_LS	Girls in their Types of Logical Learning Style

Statements and Declarations

Conflict of Interest
The writers say there isn't any conflict of interest.

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