



IGENERATION: THE FIRST DIGITAL NATIVES AND THEIR MULTIFARIOUS LEARNING METHODS

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ABSTRACT:

The mode of education system has been almost identical throughout the generations except the current one. The "Generation z" also known as "iGeneration" is experiencing a major shift in this regards. Their learning experience is vastly different from previous generations. The main aim of the study is to examine the influence of various sources and applications that serves as a teaching tool to this generation in parallel with the traditional classroom and also to explore the level of dependency on these sources. The research data is collected from interview method and structured questionnaire using Google forms. According to the findings obtained from the research, it is observed that, students use not only using the technology as their alternate source of information apart from traditional classroom learning but also the insights from their peers, mentors, workshops and seminars and so on has been utilized for more personalized and convenient learning, The data collected from the students revealed that there is a significant level of dependency on these sources to keep up and stay relevant. The study also explores the opportunities and challenges arising from their interconnected learning environments.

Keywords: iGeneration or Generation z, Education, Digital natives, multifarious learning, various sources of learning, technological Applications.

INTRODUCTION:

Traditional education typically takes place in schools, colleges and universities that employs standardized curricula which involves teachers imparting their knowledge on the subject and facilitates learning experience for

students. Further, teacher takes the central role as a primary source of information to students engaging structured activities and assessments while the students are expected to follow instructions, respect authority, and maintain classroom decorum.

"An education isn't how much you committed to memory, or even how much you know, it's being able to differentiate between what you know and what you don't." - Anatole France

Although standard schooling has long been the predominant strategy, it is important to remember that educational practices are always altering to accommodate learners' shifting requirements and wants. Currently there is a growing understanding of the demand for more interactive, student-centered teaching methods that encourage creativity, critical thinking, and problem-solving abilities. As a result, Students are opting for alternative educational models which are becoming more and more well-liked and offer unique ways of teaching and learning.

IGENERATION: THE FIRST DIGITAL NATIVES

"Generation z" or "iGeneration" refers to the demographic cohort that follows Millennial and precedes Generation Alpha. They are typically born between mid-1990s to the early 2010s. This Generation grew up with technologies around them so much so they never known a world without internet and technology at their fingertips, which is why they are often distinguished as the "Digital Natives".

Gen Z's varied and international attitude is one of its defining characteristics. They were exposed to other cultures, viewpoints, and social issues as children growing up in a linked globe. Thus, approaches education with a unique perspective influenced by their exposure to technology and information. They gravitate towards worldly application of education and resonate with more than traditional lecture-style approaches.

REVIEW OF LITERATURE:

Rosen, L. D. (2010) argues that the minds of young students today "have changed – they have been 'rewired' through their constant immersion in digital worlds. A "culture gap" has emerged between students (digital natives) and teachers, (digital immigrants) at the same time where educational strategies have not caught up with the tech-savvy youngsters of today who eat, sleep, and breathe technology. Another aspect of this identity is that they feel under pressure to use these technologies, since the general discourse assumes both that they should do so (in order to keep up), but also that they already are using such technologies **Hartmann, M. (2003)** One defining aspect of Gen Z is their diverse and global mindset. Growing up in an interconnected world, they have been exposed to different cultures, perspectives, and social issues from an early age. The current generation that is "location-aware" and speaks a "technological-language" is on the rise **Cilliers (2017)** concluded that students of Generation Z know more technology know-how than their Lecturers, requesting more technology usage as part of their module. **AJ.Mohr & S. Mohr (2017)** suggests the faculty to promote informational literacy and leverage the aspect of "destiny assignments" to frame tasks. **Seemiller & Grace (2017)** study shows that generation z prefers to be

engaged in hands-on learning experience; few students described that the ideal learning environment as "need[ing] to be actively doing the learning to obtain the most information".

Szymkowiak, A., Melović, B., Dabić, M., Jeganathan, K., & Kundi, G. S. (2021) the results of ANOVA analysis showed the respondents being more partial towards learning via mobile applications and video content over the traditional form. It also discovered that the students tended to emulate their teachers who integrated modern technologies into their curriculum and used it outside classroom hours for learning. Providing easy learning, making audio visual learning and reaching too much knowledge are the most effective way of education **Incik, E., & Incik, T. (2022)**. **Parker, A., & van Belle, J. P. (2017)** The majority of respondents indicated that technology within courses has not only allowed them to learn and develop more skills, but it also provide a critical role towards course-specific learning tasks as well as communication facilitator as the majority of communication is in that of a digital format.

Rothman, D. (2016) suggests the instructors teaching in 2020 must be prepared to teach using software, hard ware, digital and social media and some instructors might also need professional development support to help them move from a traditional to a transformational learning model. **Skinner, B. F. (1961)** claims that the machine could maintain students' interest because it provided regular reinforcement and always presented novel material. It could, he claimed, teach what teachers teach in half the time and with half the effort. However, **Xu, H. (2022)** using IPA four-quadrant analysis showed that students' satisfaction with teaching professional's knowledge was low with online teaching resources.

Menendez M, Díaz CA & Menendez R. (2020) highlights the competition for human talent so the universities are forced to transform teaching methods and programs in academic process. **Fan Mo (2022)** stated that developing marketing training strategies in generation z via interdisciplinary education. A self-directing ability is recommended to carry out co-operative and project task-driven learning to cultivate student's autonomous and innovative consciousness **Yuewu (2023)**. **Shaffi, S., Tarek, S. and Watson, A. (2023)** concludes flipped classroom in higher education has yielded positive academic outcomes providing student centred approach that better applies in learning practices. The key to their success is in providing more opportunities to develop the non-cognitive skills necessary for jobs that machines cannot do **Sekiyama (2020)**.

Yunos, Din (2019) study findings shows that the level of knowledge on generation z towards industrial revolution 4.0 is lower level but when it comes to readiness it shows higher level. In relevance, from the results of **Kohnová, L., Papula, J., & Salajová, N. (2021)** it is observed that the level of technological skills of young people is not so high. The problem may also be in the current setting of the education system, as education in the field of digitization is not part of the school curriculum. However, it is essential for the future of companies that this young generation be fully adapted to the issue of digitization.

Being highly familiar with the use of technology, Generation Z students are very interested in raising their chances of employability in the current digital society **Toma, S. G., & Hudea, O. S. (2024)**. On that note, **Ngoc, T., Dung, M., Rowley, C., & Bach, M. (2022)** study shows that students support the idea of being able to work out of the office occasionally and would like to have a certain level of autonomy to decide their own flexible time throughout the day, It is important for HR professionals have to bear in mind that the inter-generational differences are natural, and organizations have to live with it **Chillakuri (2020)**.

STATEMENT OF THE PROBLEM

The literature review shows various studies pertaining to education of iGeneration in various parts of the world. It's also revealed the importance of adapting new learning methods and curricula to cater the needs of students of iGeneration in their learning experience. Despite the great potential of the topic, little to no research has been done on the various sources used by the students of iGeneration along with their Traditional education in India. Hence, Rayalaseema region of Andhra Pradesh has been selected for the study.

This study contributes to knowledge by identifying various sources of learning methods and also to determine the level of dependency on these various sources of learning methods by using statistical tool such as factorial analysis Principle component method. It is also worth mentioning that no previous study examined the level of dependency on the multifarious learning using this method.

Objective of the study

1. To identify the multifarious sources for educational learning used by the students of iGeneration.
2. To examine the level of dependency on multifarious sources for educational learning by the students of iGeneration.

Hypothesis

1. H₀: there is no significant level of dependency on multifarious sources of learning by the students of iGeneration from age 18-22
2. H₀: there is no significant level of dependency on multifarious sources of learning by the students of iGeneration of both male and female genders.

RESEARCH METHODOLOGY

Scope of the study

In this study, a sample of 50 students was taken and the data was collected through interview and structured questionnaire from the age groups of 18 years to 22 years. Among them, total of 23 students are male and 27 students are female as represented in the tables below,

Table No. 1

Age	F	%
18 Years	10	20.0
19 Years	7	14.0
20 Years	11	22.0
21 Years	12	24.0
22 Years	10	20.0
Total	50	100.0
Gender	F	%
Male	23	46.0
Female	27	54.0
Total	50	100.0

Findings of the study

1. **Peer-to-peer learning:** This strategy is particularly successful because of Gen Z's ease with propensity for social connection. To exchange knowledge, perspectives, and expertise, they frequently use classroom, online forums, social media, and platforms. This approach gives pupils the ability to benefit from the various experiences of their classmates, encouraging a more participatory and tailored learning environment.
2. **Exclusive networking:** In this setting, students gain insights and access to resources through meaningful connections within exclusive networks obtained through their peers or people with similar endeavors in universities or social group that can provide unique opportunities and knowledge sharing.
3. **Human library:** A Human Library for education could involve educators, students, and professionals acting as "books" to share their experiences, insights, and knowledge related to various educational topics. This interactive approach could provide valuable real-world perspectives, advice, and inspiration to those seeking to enhance their understanding of education and its practical applications.
4. **Technology:** Gen Z has easy access to a wealth of online resources, such as educational videos, articles, and interactive simulations. This enables them to explore topics beyond the confines of traditional textbooks.
5. **Real-time learning:** Real-time learning in education refers to a dynamic and responsive approach to teaching and learning that leverages technology to provide immediate and interactive experiences allowing students to access up-to-date information, resources, and materials instantly, enabling them to stay current with rapidly evolving subjects.
6. **Artificial intelligence:** AI-powered platforms can analyze students' learning behaviors, preferences, and performance data to provide personalized learning paths and content tailored to individual needs. Its

algorithms adjust the difficulty and pace of content based on students' progress, ensuring that they are appropriately challenged and supported.

7. **Workshops/Conference/Seminar:** These events expose students to new educational theories, research findings, and practical strategies that can enrich their learning practices. And also connect with like-minded individuals, share experiences, and establish valuable professional connections within the education community.
8. **Self-reflection:** Self-reflection is a valuable practice for students in education as it encourages them to examine and reflect on what they've learned, helps students consolidate knowledge and make connections between different concepts and ideas.

Table No. 2: Attitudes and views using 5-point likert scale,
Weighted and given ranks as shown below

Variables	Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree	Weighted Total	Weighted Average	Ranks
There is a satisfaction with the current educational structure and its learning methods?	1 (2.0)	7 (14.0)	8 (16.0)	31 (62.0)	3 (6.0)	122	2.44	9
There is a gap between what is taught and what needs to be learnt.	6 (12.0)	38 (76.0)	4 (8.0)	2 (4.0)	0 (.0)	198	3.96	8
There is a high level of dependency on multiple sources of	15 (30.0)	30 (60.0)	3 (6.0)	2 (4.0)	0 (.0)	206	4.12	4

learning for education.								
Inclusion of different sources of educational learning helps to increase competence and creativity in the subject	12 (24.0)	34 (68.0)	3 (6.0)	1 (2.0)	0 (.0)	207	4.14	3
Inclusion of different sources of educational learning impacts in the academic achievement	8 (16.0)	37 (74.0)	2 (4.0)	2 (4.0)	1 (2.0)	199	3.98	7
Integration of multiple sources of educational learning creates a personalised and differentiated learning experience applicable to specific learning needs	11 (22.0)	36 (72.0)	0 (.0)	2 (4.0)	1 (2.0)	204	4.08	6
There is a need to balance the usage	10 (20.0)	37 (74.0)	1 (2.0)	2 (4.0)	0 (.0)	205	4.10	5

of multiple sources of educational learning and Traditional educational learning.								
There are challenges and limitations on facing multiple sources of learning	11 (22.0)	37 (74.0)	1 (2.0)	1 (2.0)	0 (.0)	208	4.16	2
Multiple sources of educational learning should be encouraged and involved in the classroom education.	12 (24.0)	36 (72.0)	2 (4.0)	0 (0.0)	0 (0.0)	210	4.20	1

According to the table No. 2, it can be said that the students strongly acknowledge the importance of using multiple sources of educational learning in classroom education and believe that the inclusion of multifarious sources in educational learning helps for better learning and practice. At the same time, dissatisfaction with the current education system can also be seen strongly among the students of iGeneration.

Table No. 3: Factor Analysis Results on the Perception of Students using multifarious sources for educational learning*(N= 50)*

Attributes	Factor Loading			Communality
	Factor 1	Factor 2	Factor 3	
Factor 1: Academic Source				
Q4	0.765			0.683
Q5	0.748			0.748
Q7	0.730			0.641
Q6	0.649			0.759
Q3	0.592			0.513
Factor 2: Multiple Sources				
Q9		0.699		0.789
Q8		0.653		0.759
Factor3: educational Structure				
Q2			0.812	0.683
Q1			0.474	0.467
Eigen Value	3.187	1.740	1.063	
Variance (%)	35.410	19.335	11.811	
Cumulative variance (%)	35.410	54.745	66.556	
Reliability Alpha (%) (0.350)	71.3	76.8	69.3	
Number of items (Total = 9)	5	2	2	

Note: Extraction Method – Principal Component Analysis

Rotation Method – Varimax with Kaiser Normalization

KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy) = 0.640

Bartlett's Test of Sphericity: $p = 0.000$ ($\chi^2 = 147.729$, $df = 36$)

The principal components factor method has been used to generate the initial solution. In the table No. 3, it shows that the eigen values has suggested a three- factor solution explained 66.56% of the overall variance after the rotation. The factors with eigen values \geq to 1.0 and attributes with factor loadings $>$ 0.4 were reported. As per the results of the factor analysis, the three factors identified are as follows: Academic Source, Multiple source, and Educational Structure.

The overall significance of the correlation matrix was 0.000, Along with a Bartlett test of sphericity value of 147.729. According to the statistical probability and the test, it is indicated that there was a significant correlation between the variables and also the usage of factor analysis was appropriate. The Kaiser-Meyer-Olkin overall measure of sampling adequacy was about 0.640 which was meritorious (according to Hair, Anderson, and Black 1999).

From the varimax-rotated factor matrix, three factors with 9 variables has been defined by the original 9 variables that loaded most heavily on them (i.e., loading $>$ 0.4). No attributes were taken away or dropped due to the failure of loading on any factor thats at the level of 0.4 (or higher). The communality of each variable was ranged from 0.467 to 0.789.

In order to test the reliability and the internal consistency of each factor, the Cronbach's alpha of each factor has been determined. The results revealed that the alpha coefficients are ranged from 0.693 to 0.768 for these three factors. The results were considered to be more than reliable, since the minimum value for accepting the reliability test is 0.50 (Nunnally, 1967).

The three factors underlying the level of dependency on student's perceptions of educational learning attributes are the following, Academic source (Factor 1) has contained five attributes and is explained with 35.410% of the variance in the data, along with an eigen value of 3.187 and a reliability of 71.3%. The attributes that area associated with this factor is dealt with the academic source, such as "Inclusion of different sources of educational learning helps to increase competence and creativity in the subject," "Inclusion of different sources of educational learning impacts in the academic achievement". "There is a need to balance the usage of multiple sources of educational learning and Traditional educational learning," "Integration of multiple sources of educational learning creates a personalized and differentiated learning experience applicable to specific learning needs" and "There is a high level of dependency on multiple sources of learning for education".

Multiple sources (Factor 2) has accounted for 19.335% of the variance, along with an eigen value of 1.740 and a reliability of 76.8%. This factor has been loaded with 2 attributes such as "Multiple sources of educational learning should be encouraged and involved in the classroom education," and "There are challenges and limitations on facing multiple sources of learning".

Educational structure (Factor 3) was loaded with two attributes. This factor accounted for 11.811% of the variance, with an eigenvalue of 1.063 and a reliability of 66.56%. These two attributes are "There is a gap between

what is taught and what needs to be learn, and “There is a satisfaction with the current educational structure and its learning method”.

MEASUREMENT RESULTS:

Level of Multifarious sources for educational learning by the student’s iGeneration

The level of utilization of sources for educational learning by the student’s iGeneration by various categories is being discussed in this section. The following procedure has been adopted in order to classify the students into different utilization levels. Firstly, Mean () is calculated, dividing the aggregative utilization scores by 50 Students respondents $1761 / 50 = 35.22$ points. The calculated value of Standard deviation (S.D.) is 2.97 points. In order to test the hypothesis, chi-square test is conducted. The test formula procedure is explained as below.

High, Low and Medium levels of dependency are as follows,

High-Level: $\geq (+1.S.D) = (35.22 + 2.97) \geq 38.2$ is rounded off 38 above points learning dependency score

Low-Level : $\leq (-1.S.D) = (35.22 - 2.97) \leq 32.3$ is rounded off 32 below points learning dependency score

Medium level: $> 32 < 38$ Points learning dependency score

Table No. 4

Age	Level of dependency							
	High Level		Medium level		Low Level		Total	
	F	%	F	%	F	%	F	%
18 - 19 Years	2	18.2	14	45.2	1	12.5	17	34.0
20 - 21 Years	5	45.5	16	51.6	2	25.0	23	46.0
> 22 Years	4	36.4	1	3.2	5	62.5	10	20.0
Total	11	100.0	31	100.0	8	100.0	50	100.0
t-value	$\chi^2 = 17.072^{**}; (p = 0.002); df= 4;^{**}$ Significant at 0.01 level							

The table No. 4 states that, there is a significant level of dependency i.e, statistically significant at 0.01 on multifarious sources for educational learning by the students (from age 18-22) of iGeneration.

Table No.5

Gender	Level of dependency							
	High Level		Medium level		Low Level		Total	
	F	%	F	%	F	%	F	%
Male	8	72.7	14	45.2	1	12.5	23	46.0
Female	3	27.3	17	54.8	7	87.5	27	54.0
Total	11	100.0	31	100.0	8	100.0	50	100.0
t-value	$\chi^2 = 6.786^*$; (p = 0.034); df= 2;*Significant at 0.05 level							

The table no. 5 reveals that, there is a significant level of dependency i.e, statistically significant at 0.05 on multifarious sources for educational learning by the students (both male and female) of iGeneration.

Conclusion

Students of Generation Z are drawn to the diverse array of educational resources available due to their intrinsic compatibility with the digital landscape they've grown up in. The traditional approach to education is not enough to keep up and stay relevant. The students of iGeneration seek an education that cater to individual learning styles, interests, and career aspirations which is why personalized learning is more important and necessary for them. While traditional education still holds value in terms of providing a fundamental knowledge and an organized learning environment, there is also a growing recognition that it must change to meet the evolving needs of students and the requirements of the modern world.

Students of Generation Z utilize the multitude of educational resources available to them for several reasons. Firstly, these resources align with their tech-savvy nature, offering engaging and interactive learning experiences that resonate with their digital upbringing. These multifarious resources cater to their busy and dynamic lifestyles, allowing them to learn at their own pace and integrate education seamlessly into their routines. In an ever-evolving job market, these resources equip them with up-to-date skills and knowledge, ensuring they remain adaptable and competitive. Overall, Generation Z utilizes these resources to craft a personalized and comprehensive educational journey that aligns with their unique needs and aspirations.

Suggestions

Generation Z students have the advantage of a wealth of resources at their fingertips. Here are some of the suggestions to cultivate a well-rounded and adaptable approach to learning that serve them well in their academic pursuits and beyond.

1. **Exploration of knowledge** holds immense value for Generation Z, offering them the opportunity to thrive in today's dynamic world. Encouraging curiosity and a thirst for learning, exploration of knowledge empowers Gen Z to adapt to future changes and continuously upskill throughout their lives.
2. **Global syllabus** creates an exposure to diverse cultures, perspectives, and global issues expands students' worldview and helps them develop a more comprehensive understanding of the world.
3. **Inclusion of multifarious of sources** in teaching helps in achieving access to a range of sources encourages students to explore beyond what's presented in class, promoting self-directed learning and curiosity.
4. **Hands-on learning** provides tangible experiences that help students grasp abstract concepts by linking theory to real-world situations.
5. **Attention span** of iGeneration often associated with having a shorter attention span compared to previous generations. To enhance their engagement, incorporating sensory stimulation can be effective.
6. **Autodidact** is a trend often seen in iGeneration as a result of their inquisitive mindset and is accustomed to seeking out answers, tutorials, and resources independently. Encouraging this would let them choose what, when, and how they learn, aligning with their desire for individualized experiences.
7. **Mobility** of information with the help of technology can transform education by providing unprecedented access to knowledge and resources at anytime regardless of geographical locations.

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