

Understanding Generation Z, The New Generation of Learners: A Technological-Motivational-Learning Theory

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Abstract

Generation Z is the new generation of technologically dependent learners, the most diverse and career-oriented individuals. Understanding the traits and characteristics of this generation is essential to describing and analyzing the societal change brought by Gen Z. The generated new theories will help to address the knowledge gap and can help design the curriculum for the new generation of learners. An axiomatic deductive approach following the steps from Padua (2012) was utilized in this study. Three axioms were constructed, namely: (1) Generation Z's life depends on technology; (2) Generation Z has different perceptions of life fulfillment; and (3) Generation Z is independent and learner-centered with a short attention span. From these three axioms, seven propositions were formulated, namely: (1) E-learning should be used to facilitate the teaching-learning approach for Gen Z; (2) Interpersonal relationships should develop among Gen Z; (3) Develop a multimodal teaching-learning approach to address the diversity of Gen Z learners; (4) Develop a curriculum that focuses on applying and contextualizing of concepts rather than memorization; (5) Mental health and gender equality awareness should be included in the curriculum; (6) Interactive approach and healthy competition should be integrated into the teaching-learning approach; and (7) Orientation on career and financial literacy should be taught at home and school. With these, a theory was developed and termed the technological-motivational-learning theory for the new generation of learners, Gen Z. This theory is useful to fully understand the learning style of Gen Z to avoid mismatching the teaching-learning approach.

Keywords: Deductive axiomatic approach, Generation Z, New generation learners, Technological-motivational-learning theory

Introduction

Generation Z (Generation Z) was born between 1995 and 2012 and is the descendant of Generation Y or Millennials (1981-1996) and Generation X (1965-1980). Their parents, Generation Y, are flexible, freedom-seeking, and are considered digital natives, while Generation X are choosing work-life balance and are considered digital immigrants. Generation Z seeks security and stability and relies entirely on information technology (Dupont, 2015; Wellner, 2000). They are exposed to the internet, mobile systems (Francis & Hoefel, 2018), social networks and the internet (Francis & Hoefel, 2018; Singh & Dangmei, 2016). Digital-centric and technology is their identity. Their existence is more associated with the electronics and digital world than other generations. Also known as Generation Z, Generation Z, Generation Z, Generation I (iGeneration), Tech Generation, Digital Native Generation, Wii Generation, Me Generation, Net

Generation, N Generation (Singh & Dangmei, 2016; Turner, 2015; Holiday & Mountains, 2008). They are considered to be the most diverse population (Wiedmer, 2015; Urlaub & Berge, 2008). According to the Philippine Bureau of Statistics (2010), more than 109 million (36.74%) Filipino Generation Z, with ages 10 to 29 years old, are expected to outperform the country in 2020 projections using medium assumptions. make up a large part of the population of A growing Gen Z population will dominate the world for decades to come (Wiedmer, 2015). They are considered the most populous generation, with more than one-third of their population (Gomez, Mawhinney, & Betts, n.d.).

Gen Z can present a unique perspective on careers, success, and well-being in life (Klein, 2022; Gomez, Mawhinney, & Betts, undated). They are more focused on themselves and perceive success and happiness as their responsibility. They believed that one must take care of oneself before

taking care of others (Klein, 2022). We respect diversity of race, gender and sexual orientation. Gen Z are the generation most likely to have people who identify as non-binary/third gender. They are competitive, entrepreneurial and financially focused (Miller, 2018). They are career-focused and are usually portrayed as prioritizing financial security over personal fulfillment. Compared to other generations, Generation Z is a generation in debt caused by political and social crises and environmental problems. Therefore, they value education and careers (Gomez, Mawhinney & Betts, undated). Since Generation Z is a new generation of learners, it is important to understand their characteristics and characteristics in order to discern new trends in social change. Developing new theories that fill knowledge gaps from their perspective will help shape curricula for new generations of learners and build a quality workforce to improve the nation's economy.

This study aims to categorize and analyze the characteristics of Gen Z to generate a theory. This study can give additional knowledge on the societal change brought by Gen Z. Further, the developed theory in this study will serve as a basis for designing the curriculum based on the needs and characteristics of the new generation of learners.

Literature Review

Generation Z was born in the 1990s and grew up in the 2000s. They exist in a world of web, internet, smartphones, laptops, and easy access to networks and digital media (Singh & Dangmei, 2016; Tulgan, 2013). They have free access to information and can easily share content. Others take one-click online shopping for granted (Gomez, Mahinney & Betts, n.d.). They are considered the most ethnically diverse and technologically sophisticated generation (Harber, 2011). According to Oblinger and Oblinger (2005), the internet is his Generation Z best friend. They are physically connected to technology, enabling them to communicate, interact, and respond to the world without being in the same place or time. Wiedmer (2015) supports this statement that lifelong use of communication and technology is observed in her Generation Z.

A sophisticated media and technology environment makes Gen Z more knowledgeable and experienced than other generations (Salleh, Mahbob & Baharudin, 2017). They were born into the digital age, where the Internet is as convenient as plug-and-play (Feiertag & Berge, 2008). Her parents introduced her to the internet and social networking sites. In addition, they rely heavily on the Internet, which provides easy and quick access to all information (Merriman, 2015). However, Generation Z was born in a time of terrorism, geopolitical instability, environmental problems, health crises and economic hardships (Seemiller & Grace, 2018). Because of their extensive and direct exposure to digital technologies such as social networks, information overload on the Internet led to negative traits (Salleh, Mahbob, & Baharudin, 2017; Turner, 2015). Sladek and Grabinger (undated) say Gen Z is the most stressed generation of all time because they are surrounded by competition. Generation Z learned their competitive nature as an ambitious group through years of academic and athletic comparisons (Miller, 2018; Dupont, 2015). Other new issues are emerging that could weigh on Gen Z. Rising mass shootings (Bethune, 2019), rising suicide rates, climate change and global warming, segregation and deportation of immigrants and immigrant families and her generation see widespread reports of sexual harassment and assault. I got Generation Z reportedly rated fair or poor in terms of mental health and had higher levels of stress related to social issues. Compared to other generations, a higher proportion of Generation Z were treated or treated by a psychiatrist. According to Bethune (2019), 9 out of 10 of her Gen Z adults experienced at least one physical or emotional symptom such as stress, depression, sadness, apathy, or motivation. On the positive side, Gen Z is more aware of and accepting of mental health issues than other generations (Bethune, 2019).

Generation Z is technology-dependent, preferring digital communication to face-to-face interaction, and having short attention spans (Salleh, Mahbob, & Baharudin, 2017; Generational White Paper, 2011; Gomez, Mawhinney, & Betts, n.d.). They have an informal and direct way of communicating and social networking. You are a cosmopolitan.

They use social media to connect with people around the world (Sladek&Grabinger, date unknown). You can form a constant communication loop with a huge community without having to meet in person. They are supportive, talkative, and sociable online, but do not form many personal relationships in the real world (Riva et al., 2012). They are thoroughly inclusive and make no distinction between friends you meet online and friends you meet in the physical world. They value online communities because they allow people to connect with them. (2018).

This generation is adventurous (Gomez, Mahinney, and Betts, n.d.), has advanced multitasking abilities and is social media addicted (Cowan, 2014). They are always connected and have a vast amount of information and influence through social media. I also like self-experimentation (Francis &Hoefel, 2018). They are the do-it-yourself (DIY) generation who can work independently (Singh &Dangmei, 2016; Turner, 2015). Manifesting individual identities is a core idea of Generation Z. Respect individual expression and avoid labeling (Francis &Hoefel, 2018).

Basically, because they rely on technology, they lack problem-solving skills and are unable to demonstrate contextualization and analysis in decision making (Coombs, 2013). They were also obsessed with the digital world. They had no physical interaction and poor face-to-face interaction. As a result, they are less likely to use brain logic in critical thinking (Salleh, Mahbob&Baharudin, 2017). Still, Gen Z has the world of information at their fingertips. You can technically search for anything you want to know. Instead of remembering what to look for, focus on learning how to find, interpret, and use information. As a result, they can find out much of what they need to know in minutes and spend the rest of their time analyzing information and developing solutions (Sladek&Grabinger, date unknown). Therefore, they are able to make decisions and relate to highly analytical and pragmatic bodies.

Generation Z wants less conflict and more dialogue. They appreciate the importance of dialogue and the acceptance of differing opinions. They want to know what's going on around them.

This generation of self-learners also feels more comfortable absorbing knowledge online than in traditional learning institutions (Francis &Hoefel, 2018). They tend to be impatient, sociable, unambitious, inattentive, self-determined, demanding, materialistic, non-team-oriented, and assertive (Turner, 2015; Generational White Paper, 2011). They may openly express criticism or express disagreement without wise judgment. These traits make them impatient, somewhat rebellious, and seeking immediate gratification regardless of the outcome (Salleh, Mahbob, &Baharudin, 2017). Additionally, people often forget to check the authenticity of what they read or report on the Internet.

Additionally, the Internet has brought this generation closer to social issues such as climate change, gay marriage, and marijuana legalization (Grow & Yang, 2018; Dupont, 2015). However, Internet use leads to negative experiences among Generation Z, including: B. Privacy Concerns, Data Leakage, Identity Theft, and Online Bullying (Grow & Yang, 2018; Seemiller& Grace, 2017). Then you should learn how to manage your personal information online, protect your intellectual property, determine your credibility, and learn the importance of protecting yourself from online threats (Sladek&Grabinger, undated.). Moreover, her environment influenced her easily. They have easy access to the outside world but lack the knowledge, literacy, and maturity to verify the authenticity of information (Salleh, Mahbob, &Baharudin, 2017).

In addition, Generation Z has a high sense of responsibility towards natural resources. As a result, they pay attention to environmental issues and impending water shortages (Singh &Dangmei, 2016). However, they appear to be less inclined towards social and political participation (Harber, 2011). In contrast, the Internet has made Gen Z impatient, gratifying, introverted, and socially disconnected (Salleh, Mahbob&Baharudin, 2017). Generation Z tend to be more entrepreneurial, trustworthy, tolerant and less financially motivated (Scawbel, 2014). They are more optimistic about the future and have realistic job expectations (Singh &Dangmei, 2016). You can teach the skills to succeed and bridge the gap between your passion and your livelihood. These

traits allow you to be a strong leader. Gen Z lacks interpersonal skills. They are not reluctant learners. They didn't need any skill to pull off. Technology is more than just a tool for Gen Z. it's part of them. They are empowered by using technology to broaden their horizons and drive social change. It defines who they are and why society needs them. Their gadgets and profiles are simply extensions of themselves (Sladek&Grabinger, date unknown). As such, this generation needs more guidance and enhanced interpersonal relationships to combat their natural tendency to rely on technology for everything.

Casual relationships are typical of Gen Z. They use popular dating apps, but they are unpopular for meeting people and find it difficult to find a serious relationship. and create trust issues. People can easily talk to a large number of romantic prospects at once, but the connections are shallow. Generation Z believe that social media maintains unrealistic "relationship goals" that show only the positive aspects of relationships, while pressure to present relationships in a attributed to misleading followers about what entails (Isaf, 2020). Generation Z's family orientation is also influencing social changes at the household level. This is because families move from traditional two-parent households to single-parent or other family structures (Wellner, 2000). Seemiller and Grace (2018) and Dupont (2015) believe that Generation Z independence will be impacted by the Great Recession (financial crisis) and an increase in single-parent households.

Generation Z is categorized as overly reliant on social media, so instant gratification and smartphone usage solves this problem when Generation Z gets bored. Instead of going on dates, engaging in romantic exchanges, and developing serious relationships, they engage in online communication in their dating lives (Nealon, 2019). This led to a reluctance to engage and chose to stop doing it. Forming long-term connections with romantic partners meant they formed hundreds of superficial connections with large numbers of followers and were more experiential than the more serious relationships of older generations. It is difficult for them to build relationships that are not fulfilling. Isaf (2020) adds that Generation Z has a collective fear of

attachment in relation to community pressure, jealousy, and trust issues, and the newfound fear of starting romantic relationships on dating apps and social media platforms. I use trends. In other situations, Baranao et al. (2022) found that, based on Chapman's Love Language, Gen Z feels loved when they are given and shown words of affirmation, services, gifts, precious time, and physical contact. said. We should think of these kinds of love words as laying the groundwork for a better understanding of Gen Z's perspectives and behaviors.

Additionally, Bethune (2019) found money and jobs for: B. Her 45% of Gen Z respondents said personal debt and housing insecurity and work were among the sources of Gen Z stress, and 75% were single and dating during the pandemic (Klein, 2022). In 2015, he was 34.8 million (44.00%) single in the Philippines. Singles increased by 3.5 million, surpassing her 31.3 million in the 2010 report (PSA, 2020). Financial stability is therefore vital for them as it takes time to settle down as it takes time to achieve financial stability.

Research Methodology And Framework **Deductive Approach**

In this study, we used a deductive research approach in theory development to theorize the traits and characteristics of Generation Z as new generation learners. A deductive approach aims to formulate a hypothesis and design a research strategy to test that hypothesis (Gilgun, 2019; Saunders et al., 2019; Dudovskiy, 2016; Wilson, 2010; Gulati, 2009). Deduction is the process of thinking from the specific to the general. Test whether relationships or connections exist under more general circumstances (Gilgun, 2019; Dudovskiy, 2016; Gulati, 2009). This approach deals with drawing conclusions from premises or statements. It starts with expected patterns that are tested against observations (Dudovskiy, 2016). Hypotheses are then tested with observations that either confirm or reject the theory (Saunders et al., 2019; Dudovskiy, 2016).

According to Marciszewski (1981), deductive methods are used to construct an axiomatic deductive system "theory". To construct. An axiom (axiom, axiom, fundamental statement) is a

proposition that is accepted without proof in a problem theory and from which all other statements of the theory are derived.

In this study, based on the theory of technologically motivated learning, the process of

formulating understanding for the new generation of learners, Generation Z, was based on an axiomatic deductive approach. Figure 1 shows the theory generation procedure based on Padua (2012).

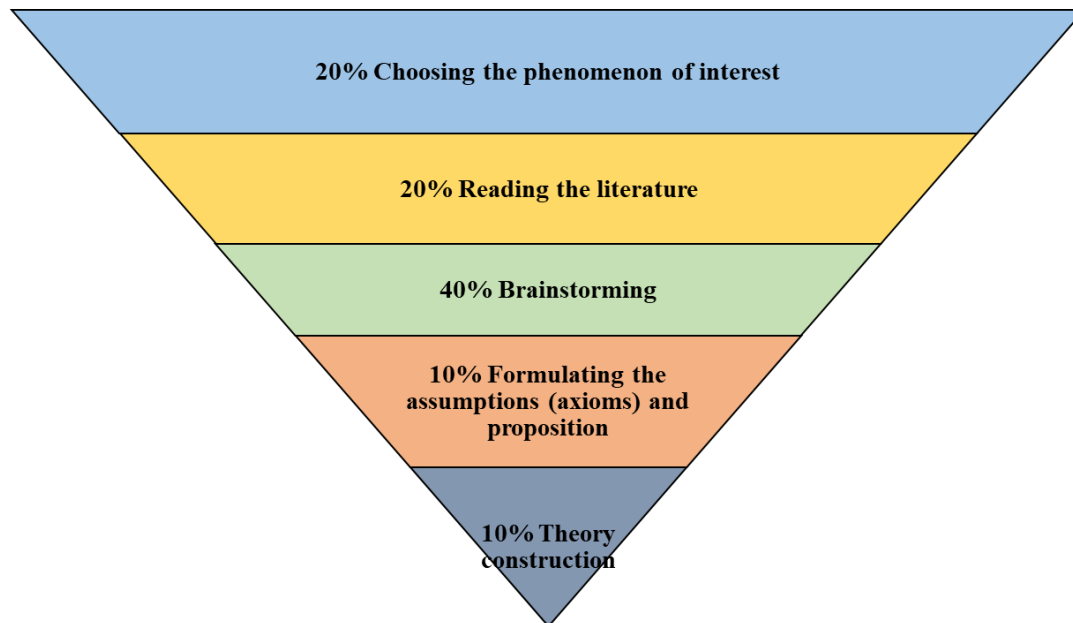


Figure 1. Deductive Axiomatic Approach in Theory Development (Padua, 2012)

Phenomenon of Interests

The first step in building a theory is choosing a phenomenon to describe or a question/problem to address (Jaccard & Jacoby, 2020). The phenomenon of interest (theoretical sampling) involves collecting, coding, and analyzing data to generate a theory, then deciding what data to collect, where to find it, and when the theory arises. It is a process of data collection through theory development (Noble & Mitchell, 2016; Strauss & Corbin, 1994, 1990; Charmaz, 1990; Glaser, 1978; Glaser & Strauss, 1967). Choosing a phenomenon of interest is essential in developing a theory and is the first step in formulating a theory using an axiomatic deductive approach (George, 2019; Noble & Mitchell, 2016). Furthermore, identifying a research problem and its goals is essential for research design in any kind of systematic, theory-oriented research (George, 2019). Furthermore, Sharmaz (1990) emphasized that theoretical sampling provides more data to confirm or refute categories identified in previous analyses. literature review

Literature reviews

It provide a framework for determining the importance and scale of studies and for comparing results with other findings (Creswell & Creswell, 2018). Strauss and Corbin (1994, 1990) added that literature review is one source of theoretical sensitivity and provides a deeper understanding of the phenomenon being studied. In addition, Cooper (2010) and Marshall and Rossman (2016) showed that literature reviews connect studies to the larger debates ongoing in the literature, fill knowledge gaps, and extend previous studies. Reading the literature is necessary to increase knowledge and contextualize the importance of the nature of phenomena and the rationale for theory development (Cabello et al., 2021). It is therefore straightforward to use a literature review to construct and establish axioms and propositions based on previous research presented in our findings and recommendations, while filling knowledge gaps (Mintzberg, 2017). Synthesize

Synthesizing

In synthesizing the data, brainstorming was carried out to derive solutions from various perspectives based on the information and ideas obtained, and collation, evaluation, and selection were carried out. In 1939, Alex Osborne developed a brainstorming technique to generate and create as many ideas as possible in order to achieve and improve creative success. Brainstorming is one of the most important strategies for generating creativity and solving problems in education, business, industry and politics. Brainstorming means using the brain to solve problems, with the goal of developing creative solutions (AlMutairi, 2015). Henningsen and Henningsen (2017) specifically state that brainstorming can promote coherence and consistency of information used to develop theories. When formulating assumptions, axioms, and propositions in theory development, it is necessary to connect the literature review as a whole by connecting a large number of diverse material sources and finding common themes (Cabello et al., 2021). Miller (1994) emphasized that synthesis is an essential step in classifying and developing meaningful assumptions or axioms and propositions related to theory formulation.

Formulating Axioms and Propositions

Axioms and propositional formulations were used after collecting, analyzing, and synthesizing all relevant literature reviews and studies. Prasad et al. (2018) explain that the formulation of axioms and propositions requires substantial elaboration of the information collected to establish relationships between data. According to Novikov (2011), axioms are the underlying theorems and the underlying assumptions that govern them, and propositions are statements made from axioms. Keating and Bradley (2015) also explained that while propositions support axioms, axioms define theory and propositions are always true. Finally, Jaccard and Jacoby (2020) classified three types of statements or expressions in philosophy of science.

(1) Interesting and/or useful suggestions that have not yet been empirically evaluated but may be subject to future empirical testing by rigorous scientific protocols. (2) Proposals that have been previously tested and have some degree of

acceptability based on that research. (3) statements (often called assumptions or axioms) which have not been subjected to empirical testing but which, in the view of theorists, can be taken as given in themselves. Therefore, axioms and propositions are essential elements in creating a theory.

Theory building

Theorizing was the final step in developing a theory using an axiomatic deductive approach. The method was performed by collating all proposals to identify and generate theories. Kivunja (2018) describes theory as consisting of interrelated ideas, concepts, principles and propositions, and definitions that pave the way for a systematic view of predicting and explaining phenomena. Jaccard and Jacoby (2020) also explain that theory construction consists in formulating conceptual systems and converting them into symbolic representations. All theories consist of concepts and the relationships between concepts and idea generation. Generate a large number of ideas from different angles and sift through them to see which ones work and which ones don't. A final theory is usually produced by integrating several analytical notes (Noble & Mitchell, 2016). Finally, Shaw and Costanzo (1982) argue that a theory must be logically consistent, consistent with known data and facts, testable, and ultimately subject to empirical evaluation. emphasized.

Results And Discussions

Phenomenon

The new generation of learners, Gen Z, was examined as the phenomenon of this study. According to scholars and researchers, Gen Z is the most populous and new generation of learners. Their characteristics and traits were also highlighted to understand their diversity. Gen Z is motivated by technology. They value education and work because they believe financial stability is part of their life fulfillment.

On the other hand, being technologically dependent creates positive and negative effects on their personalities and aspirations. With this, the researcher would like to develop a theory that will guide and sustain the value of education to Gen Z. It is vital to understand the personalities of Gen Z as technologically dependent on supporting their

motivation in education and attaining higher-order thinking skills as part of their learning experiences. Thus, this paper develops the **Technological-Motivational-Learning Theory** to understand Generation Z as the new generation of learners.

Axioms

After collating all the related literature and studies, the researcher draws out accepted, established, and proven to be self-evidently true statements. The following axioms are: (1) Generation Z's life depends on technology; (2) Generation Z has different perceptions of life fulfillment; and (3) Generation Z is independent and learner-centered with a short attention span.

Axiom 1: Generation Z's life depends on technology.

Gen Z is born in an e-learning era where its life depends on information, communication, and technology (Wiedmer, 2015; Oblinger&Oblinger, 2005). They get information from the internet and social media. They assume that most information they have seen on the internet is reliable. Exploring using the internet is accessible among them, "one-click" on information access, online shopping, and meeting people are familiar. Heavy dependency on technology believes that Gen Z can do tasks easily by searching the information on the internet instead of memorizing. They can access information online anytime, anywhere. They turn on the appliances instead of working manually. They meet people around the world on the internet. Meeting people has no boundaries among Gen Z. They can interact with people of different races, social statuses, beliefs, and practices. They perceived that the real world and digital world are the same. Meeting people through social media, online, and gaming applications is popular. They talk to someone over the phone or online call instead of meeting personally. Interacting with people online gives disadvantages them by developing interpersonal traits. They develop difficulty in interacting with people face-to-face. Hence, it is concluded that **dependency on technology is evident in Gen Z's life.**

Axiom 2: Generation Z has different perceptions of life fulfillment.

Scholars and researchers claim that Gen Z has a distinctive perspective on life fulfillment compared to other generations. Gen Z believed they were responsible for their success and happiness (Klein, 2022). They are career and financially oriented. They believed that having a source of income at an early age is essential. They value careers and education. They prioritize financial stability. They believe success and happiness are their responsibility (Klein, 2022). They invest in their future. They believe that to have a family in the future and they must be financially stable. In addition, Gen Z has an interest in new experiences. They tend to explore new things that lead to a new and different perspective in life. They become creative in their way. They are risk-takers, adventurous, and full of curiosity. Getting knowledge from their outside community online can make them curious and want to try new things. As they watch online or on social media, they dream, experience, and explore what they see.

Further, in entering a relationship, social media and online dating apps significantly contribute to finding a romantic partner (Isaf, 2020). They develop their social skills with the help of technology. They can form huge communities with different types of persons with different personalities. Gen Zers are open-minded and open, to discussing gender equality and sexual orientation differentiation. They believe that having a casual or romantic relationship has no boundaries whether it has a different social, gender orientation, and economic status. Moreover, Gen Z experienced societal problems such as political conflict, environmental, health, and financial crises, and economic instability. As a result, they develop high-stress levels related to social issues leading to awareness and accepting mental health issues (Bethune, 2019).

Moreover, Gen Z was also motivated by competition (Miller, 2018). Although political and societal crises surround them, they adapt to these situations. Competition teaches Gen Z to become resilient and creative and can provide valuable life lessons. This serves as a challenge, inspiration, and motivation for them. Therefore, it is assumed that **Gen Z has different perceptions of life fulfillment based on their experiences and aspirations in life.**

Axiom 3: Generation Z is independent and learner-centered with a short attention span.

Gen Z is an independent learner. They can decide what they want. They can voice out their thoughts and suggestions in decision-making. They mostly appreciate their teachers as the facilitator of learnings rather than giving instructions. They prefer do-it-yourself and self-discovery (Singh & Dangmei, 2016; Turner, 2015). Gen Z is motivated by technology. They feel confident in learning with the use of technology. They want interactive communication. Francis and Hoefel (2018) suggested that Gen Z feels comfortable absorbing knowledge online (e-learning) rather than through traditional learning. They preferred virtual communication rather than physical interaction. They believed they had a better opportunity to collaborate with their classmates through online classes. They can replay the lectures if they encounter difficulties understanding the subject matter. Accessibility and flexibility in online classes are the main advantages experienced among Gen Z. Memorization is not essential as perceived by Gen Z. They prefer to search the information online.

Application and contextualization of concepts or subject matter are most likely necessary to Gen Z. Since they are diverse learners, they are active individuals with different backgrounds, abilities, and learning styles. They tend to learn in different ways based on their traits and capabilities. Giving freedom in their academic rights and flexibility is vital to developing their skills. However, Gen Z is characterized as having a short attention span and difficulty focusing on finishing tasks (Turner, 2015). Having the privilege of easy access to information tends to lessen their ability to remember and think critically. Bombarding information can easily distract them while organizing the information is difficult to pay attention to the event's details. Therefore, **Gen Z is characterized as independent and learner-centered, with a short attention span.**

Propositions

The formulation of the three (3) axioms led the researcher to construct propositions. These propositions are as follows: (1) E-learning should be used to facilitate the teaching-learning

approach for Gen Z; (2) Interpersonal relationships should develop among Gen Z; (3) Develop a multimodal teaching-learning approach to address the diversity of Gen Z learners; (4) Develop a curriculum that focuses on applying and contextualizing of concepts rather than memorization; (5) Mental health and gender equality awareness should be included in the curriculum; (6) Interactive approach and healthy competition should be integrated into the teaching-learning approach, and (7) Orientation on career and financial literacy should be taught at home and school.

Proposition 1: E-learning should be used to facilitate the teaching-learning approach for Gen Z.

Technology is part of Gen Z's life, and they can easily communicate and access information using cellular phones or laptops. Therefore, an e-learning system is highly encouraged based on Axioms 1 and 3. According to Ingadóttir and Jonsdóttir (2006), technological dependency theory is a short or long-term reliance on machines and techniques to evaluate, satisfy or gratify an individual's need. Therefore, e-learning can enhance Gen Z's learning by giving easy access to lectures multiple times by replaying and can enhance critical thinking capabilities. Furthermore, online learning can be used to submit the students' output at their convenient time, while the teachers can update the lecture's content. E-learning can also accommodate different learners and increase convenience and flexibility. Further, e-learning can encourage the younger generation to attain education anytime and anywhere, which is one of the priorities in life fulfillment of Gen Z. With this, it is highly encouraged that **e-learning should be used to facilitate the teaching-learning approach for Gen Z.** This will also address the changes of the learners learning style brought by technology.

Proposition 2: Interpersonal relationships should develop among Gen Z.

Gardner (1983) described the intrapersonal-intelligent person as a learning strategy of an individual who learns best by working alone and independently. They are a self-motivated person

who wants to set individual goals. Gen Z is described by intrapersonal traits which are influenced by technology. They can form huge communities online but lack physical interaction (Axioms 1, 2, and 3). They can communicate easily online with different people. Technology can help Gen Z by encouraging them to develop critical thinking, learn new concepts, and become creative. However, the effect of technology on their socialization skills is being degraded. They have difficulty meeting people physically and tend to be shy and uncomfortable. They are likely to have a social disconnection between young and old generations and inclined skills in social relationships (casual or romantic). Therefore, this paper proposes that **Gen Z should develop interpersonal relationships** to avoid isolation and enhance human interaction. Though technology helped connect people globally via the digital world, it separated individuals physically because of too much use of mobile devices.

Proposition 3: Develop a multimodal teaching-learning approach to address the diversity of Gen Z learners.

Gen Z is a diverse learner based on Axioms 1 and 3. The multimodal teaching-learning approach helps transfer knowledge to learners with multiple intelligence. This method can promote learning to Gen Z because it encourages engagement with the subject matter. Easy comprehension of lectures can be attained using a multimodal approach because students are provided with opportunities to learn and understand information differently. Since Gen Z is a technologically dependent generation, multimodal techniques with technology integration can provide tools for input and output data based on the multiple learning styles of the students. Visual, auditory, reading/writing, and kinesthetic (VARK) learning style models can integrate the multimodal teaching-learning approach (Othman & Amiruddin, 2010). Thus, this paper proposes that a **multimodal teaching-learning approach should be developed to address Gen Z learners' diversity.**

Proposition 4: Develop a curriculum that focuses on the applying and contextualizing of concepts rather than memorization.

Gen Z believed memorization is not essential, but application and contextualization are important (axioms 1 and 3). Technology has a huge part in these perceptions because accessing information is easy nowadays. With one click on the device, they can get information as fast as possible. Therefore, contextualization in the curriculum helps the students learn the language and authentic skills that can be used in the real world. According to Kalchik and Oertle (2010), Contextualized Teaching and Learning (CTL) is an instructional strategy designed to link foundational and academic skills learning by focusing on teaching applications such as hands-on experiences and the real-world context in an abstract way. In addition, an inquiry approach can be used to shift the paradigm from memorization to comprehension, extraction, and application of information to construct new knowledge, understanding, and skills. Gen Z tends to think critically and be self-reflective. Further, the contextualizing curriculum based on learners' needs, capabilities, and skills is effective for community-based and workplace classes. Hence, it is proposed in this paper that the **curriculum should focus on and develop the application and contextualization of concepts rather than memorization.**

Proposition 5: Mental health and gender equality awareness should be included in the curriculum.

Gen Z is aware of many social and political issues. They are born where political and social issues are discussed anywhere. Because of this awareness, they perceived that equality in human rights and gender-responsive and sensitive communities are essential. In addition, they believe that their learning environment should be safe and secure. Global Education Monitoring Report (n.d.) emphasized that the school system should promote non-discriminatory and unbiased instructions.

Moreover, mental health topics are crucial to Gen Z. Because of the stressors they encounter, they are prone to mental health issues. On the other hand, Gen Z is open to talking about and deal

these mental issues compared with the other generations (Axioms 2 and 3). The United Nations Educational, Scientific and Cultural Organization (UNESCO) suggested that to avoid school-related violence, awareness and integration of gender sensitivity and mental health should be implemented in the school curriculum. Thus, it is essential to empower young people with their knowledge, skills, and attitudes, especially Gen Z. Therefore, this paper proposes a **school-based comprehensive gender-sensitive and mental health program integrated and implemented into the curriculum.**

Proposition 6: Interactive approach and healthy competition should be integrated into the curriculum.

Gen Z is encouraged by healthy competition. This can support them to work harder, push their barriers, and strive for the best. Healthy competition can motivate Gen Z to target their goals in life (axioms 1, 2, and 3). A significant experience showcasing their skills, analyzing, and evaluating the outcome are the advantages of competition. The ideas and skills of Gen Z can be motivated by competition. Competitive Advantage Theory suggests that everyone is better off if decisions are made based on the competitive advantage at all levels and can maximize their potential (Wang, 2014).

Moreover, Gen Z is also motivated by an interactive approach. An inactive teaching-learning style can engage active participation and

motivation from the students. This approach can create the learning sessions more fun and exciting. Since Gen Z are independent learners, an interactive method is suitable for encouraging the learning pace and critical and higher-order thinking skills development. Both interactive approach and healthy competition are evident in all axioms. Thus, this paper proposes that an **interactive approach and healthy competition should be integrated into the curriculum.**

Proposition 7: Orientation on career and financial literacy should be taught at home and school.

Gen Z prioritized their education and career, which are some factors that can contribute to their life fulfillment (axioms 2 and 3). Gen Z plans their career to direct their future and become financially stable at a young age. They believed that education is one of the stepping stones to achieving their career to become successful. They become aware of their strengths and weakness. As a result, they can develop their skills and enhance their talent. Gen Z can identify their future course program, academic interests, classroom learnings, schools to be enrolled in, and future employability skills by planning a career early.

Furthermore, financial literacy is essential to them. Gen Z is eager to plan for its future. They believed that being educated and financially literate has a clear vision of what they wanted. Therefore, this paper proposes that **career and financial literacy orientation should be taught at home and school.**

Table 1. Summary of how the theory is generated from axioms and propositions.

Propositions	Axioms	Theory
E-learning should be used to facilitate the teaching-learning approach for Gen Z.	1, 2, 3	Technology, motivation, learning
Interpersonal relationships should develop among Gen Z.	1, 2, 3	Technology, motivation, learning
Develop a multi-modal teaching-learning approach to address the diversity of Gen Z learners.	1,3	Technology, motivation, learning
Develop a curriculum that focuses on applying and contextualizing concepts rather than memorization.	1, 3	Technology, motivation, learning
Mental health and gender equality awareness should be included in the curriculum.	2, 3	Motivation, learning

An interactive approach and healthy competition should be integrated into the teaching-learning approach.	1, 2, 3	Technology, motivation, learning
Orientation on career and financial literacy should be taught in school and through actual experiences.	2, 3	Motivation, learning

Table 1 shows how the generated theory was established from axioms and propositions. Three axioms have been generated from the given phenomenon. From the three axioms, seven propositions have been proposed.

Theory

Gen Z is the new generation of learners, a generation of technologically dependent. Society should understand that Gen Z is more motivated by the e-learning teaching-learning approach with an interactive style. Multimodal methods can be utilized to address their diversity. They are motivated and learn more about applying and contextualizing concepts than memorizing. Healthy competition is one of the learning styles that can motivate their learning. Since they socialized with the practice of technology using social media and

the internet, they developed intrapersonal traits. Thus, they need to develop their interpersonal skills. Because of the high state of stressors they experienced, they are open to discussing mental health and gender equality. Lastly, they value education and career; thus, being financially literate and career-oriented is essential. Hence, this theory is developed and shall be termed the **technological-motivational-learning theory** for the new generation of learners, Gen Z (Figure 2).

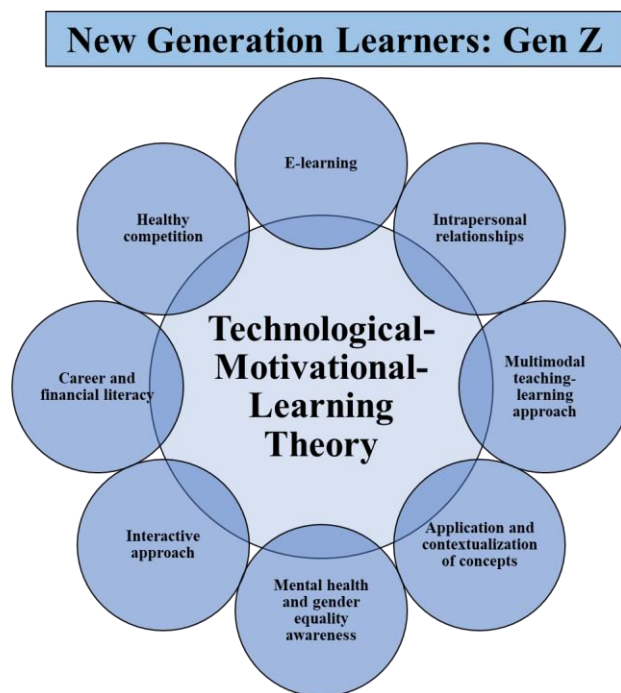


Figure 2. Technological-Motivational-Learning Theory in Generation Z, the new generation of learners.

Future Direction: Theory Validation

To validate the Technological-Motivational-Learning Theory in Generation Z, a survey questionnaire, interview, and focus group discussion (FGD) in all propositions will be utilized. A survey questionnaire and interview (structured

and/or open-ended questionnaires) can be used to determine what type of e-learning materials, multi-modal teaching-learning approach, application, and contextualization of concepts are compatible with the motivation and learning of Gen Z. FGD can be done to validate the status of

intrapersonal relationships, mental health state, and gender equality perceptions and understanding of Gen Z. Results from the survey instrument and interview can be utilized for FGD to validate, revisit, and revise the curriculum based on the needs and capabilities of the new generation learners (Gen Z). Furthermore, this information is useful to fully understand the learning style of Gen Z to avoid mismatching the teaching-learning approach.

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