



# Learner Characteristics based on Generational Differences

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**Abstract:** The development of an era that has always been mediated by technology has influenced the generational differences that adapt in each time. The context of learning that is carried out tends to transform according to the differences in generations. This study seeks to review the characteristics of learners based on existing generational differences. The approach used is in the form of a traditional literature review where the author reveals a discussion that is in accordance with the literature that the author finds. The literature sought focuses on generational differences that will then be attributed to the characteristics of learners. The result of this review is in the form of differences in the characteristics of learners based on the generation of birth. The greatest generation (GI) focuses on initiatives in learning. The veteran (silent) generation focuses on standardizing learning. Baby boomers are focusing on learning independence. Generation X focuses on learning balance. Generation Y (millennials) focus on controlling learning independently. Generation Z focuses on abstract learning constructions. The alpha generation focuses on creativity. The last (likely) beta generation focuses on complex learning processes with the help of surrounding artificial intelligence. This review is expected to contribute through exposure that can be an alternative reference for the world of education.

**Keywords:** learner characteristics; generational differences; learning

## 1. Introduction

The development of technology has changed all aspects of human life, resulting in generations participating in it. Every human being is born in a different sphere of technological development. This results in generations that tend to be different because they follow evolving technological patterns. This generational difference ultimately results in a pattern of life that tends to differ between times of birth, but tends to be the same in the construction of knowledge and technology it receives in the time span of its life. This means that like the word "every time there is a person and everyone has a time", the life process that is lived cannot be separated from each generation who continues to strive to innovate for the future of the next generation. Because generations will always follow and adjust to the development of the existing times.

Campbell et al (2015) define generation as a group of individuals born in the same time period who experience the same cultural context and, in turn, create culture (Gentile et al., 2014). The psychological perspective of culture is somewhat different from the classical sociological perspective (Mannheim, 1969) or even the more typical industry-organizational perspective (Lyons & Kuron, 2014), because Campbell argues that generations shape cultures and are not only shaped by them. In other words, there is a dynamic and constitutive relationship between generations and cultures (Markus & Kitayama, 2010).

Rogler (2002) proposes that the formation of generational collective identities occurs in the following way. First, important events such as disasters, wars, or revolutions challenge the existing social order and lay the foundation for the emergence of a new generation. Second, these events had a stronger effect on the "maturity" group than other age groups that coexisted during the same time period because people tended to form value systems during the precocious years

whereas the values of the older generation were already solidified (McCrae et al., 2002). Third, this common set of values and goals is supported by peers in the same generation and persists throughout adulthood (Kupperschmidt, 2000; Macky et al., 2008). In summary, commonly experienced life events have a stronger and lasting effect on cohort groups "becoming adults" than other cohort groups that also experience the same events (Becton et al., 2014).

Looking at the explanation above, Putra (2016) revealed that there are 2 main things that underlie the grouping of generations, namely demographic factors, especially the similarity of birth years and the second is sociological factors, especially historical events. According to Parry & Urwin (2011), the second factor is more widely used as a basis in studies and research on generational differences. Experts argue that generations are formed more due to historical events or events than the year of their birth. As practitioners have adopted the concept of generation, scholars have sought to examine the differences between generational groups and to provide evidence of the idea that these different groups have unique values, attitudes, preferences and expectations both inside and outside the workplace (Parry & Urwin, 2017).

While discussions in the academic literature regarding generational theory and comparisons of characteristics between generations are supported by very limited evidence, many researchers persist in using popular theories and unsubstantiated claims as conceptual frameworks to position their arguments in describing the needs of a new generation of students and employees and the kind of support they need (Oh & Reeves, 2014). In educational technology, this understanding of generational differences is useful for mapping the characteristics of learners as an effort to utilize technology in education appropriately.

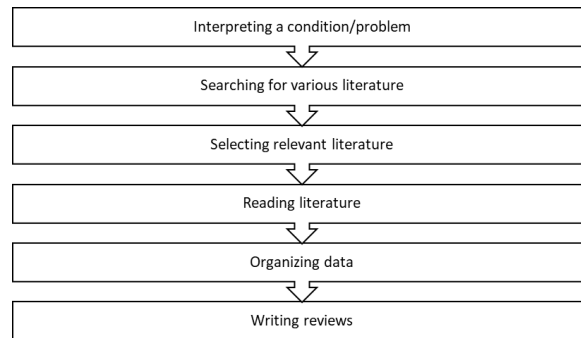
Generational diversity is found throughout educational classrooms. Differences in generational characteristics can affect the educational experience and how one approaches learning and teaching (Pick et al., 2017). Whether a particular group consists of learners from one or more of one generation, it can be predicted that individual study groups will include people with varied learning characteristics (DiLullo, 2020). The experience in 'here and now' and anticipated for future generations encourages the need for new negotiations on the content and objectives of education (Ødegaard & White, 2016).

As educators take steps to assess and appreciate the characteristics of learners, it is important to remember that millennials are a reflection of their culture. Educators must meet students where they are without compromising standards (Hart, 2017). Educators must collaborate with learners to understand each other and make changes in the learning environment. Learners need to develop both intellectually and personally to become productive citizens. Assessing learner characteristics, reflecting on the context millennials are learning rather than simply reacting to learners, and being interactive with current students guide a more learner-centered environment (Bauman et al., 2014).

## **2. Method**

This research is a literature review with a traditional review approach. This means that this study seeks to explain based on the author's perspective which is corroborated by the findings of previous studies. As Li & Wang (2018) points out that the traditional review includes an introductory part of the empirical study report as well as a stand-alone review. This review focuses on the variable "generational difference" that will later be analyzed for learning characteristics. The stages in carrying out this review consist of (1) interpreting a

condition/problem, (2) searching for various literature, (3) selecting relevant literature, (4) reading literature, (5) organizing data and (6) writing reviews.



**Figure 1. Flow of Research Reviews Conducted**

At the stage of interpreting a condition/problem, the author carries out activities in the form of looking for existing phenomena and then understood in such a way. In a sense, the author is looking for the phenomenon of generational differences that live in this world of change. At the stage of searching for various literature, the author begins to look for related literature. This means that the author is looking for literature that deals with generational differences. At the stage of selecting relevant literature, the author seeks to relate the sought-after literature as a form of problem solving of previously discovered phenomena. In this case, the author seeks the relevance of generational differences to the characteristics of learners. At the next stage, the author begins to read the selected literature. Then from those readings, the author finds data that is worthy of discussion, so it is organized and it becomes a complete conclusion. Finally, after the data was organized, the author began to write articles as reports of the reviews that had been carried out.

The consideration of writing this review consists of several reasons, namely (1) the development of eras who give birth to generational differences, (2) the need for portraits of learners' characteristics between generations and (3) the need for comparisons between generations, so the generational differences can be known as a whole. Looking at the description above, this research is very useful in mapping the characteristics of learners based on the needs of each generation, especially across generations which currently tend to be different.

### **3. Result and Discussion**

Actually, the discussion of research on generations has been carried out for a long time. It is recorded that the first time the research was revealed by Mannheim (1952) in an article entitled "The Problem of Generations". In the article it is stated, the phenomenon of generation is one of the basic factors contributing to the birth of the dynamics of historical development. Analysis of the interaction of forces in this relationship is a huge task in itself, without which the nature of historical development cannot be well understood. The problem can be solved only on the basis of a rigorous and careful analysis of all its component elements. It was later corroborated by Ryder (1985) who declared generation as a collection of a group of individuals who experienced the same event in the same time period.

Based on the above, leading experts have different opinions regarding the classification of existing generation ranges. Suppose Howe & Strauss (2000) who stated that the generation difference consists of (1) silent generation (1925-1943), (2) boom generation (1943-1960), (3)

13th generation (1961-1981) and (4) millennial generation (1982-2000). Then Lancaster & Stillman (2009) which grouped generations into (1) traditionalists (1900-1945), (2) baby boomers (1946-1964), (3) Xers generation (1965-1980) and (4) millennials; echo boomer; generation Y; baby buster; later generations (1981-1999). Martin & Tulgan (2002) also grouped generations consisting of (1) silent generation (1925-1942), (2) baby boomer generation (1946-1960), (3) generation X (1965-1977) and (4) millennials (1978-2000). In addition, Oblinger & Oblinger (2005) grouped generational differences consisting of (1) matures (<1946), (2) baby boomers (1947-1964), (3) Gen-Xers (1965-1980), (4) Gen-Y; NetGen; Millennial (1981-1995) and (5) Post-Millennial (1995-present). Previously, Tapscott (1998) had also classified generations into (1) baby boom generation (1946-1964), (2) generation X (1965-1975) and (3) digital generation (1976-2000). In addition, Zemke dkk (1999) also provide a classification of generational differences consisting of (1) veterans (1922-1943), (2) baby boomers (1943-1960), (3) Gen-Xers (1960-1980) and (4) Nexters (1980-1999). Reeves & Oh (2007) then divide them into the following group of tables.

**Table 1. Label Generation from Multiple Sources**

Source		Label			
Howe & Strauss (2000)	Silent generation (1925-1943)	Boom generation (1943-1960)	13th Generation (1961-1981)	Millenial generation (1982-2000)	-
Lancaster & Stillman (2009)	Traditionalists (1900-1945)	Baby boomers (1946-1964)	Xers Generation (1965-1980)	Millenial generation; echo boomer; Y generation; baby buster; Generation Next (1981-1999)	-
Martin & Tulgan (2002)	Silent generation) (1925-1942)	Baby boomer generation (1946-1960)	Generation X (1965-1977)	Millenial (1978-2000)	-
Oblinger & Oblinger (2005)	Matures (<1946)	Baby boomer (1947-1964)	Gen-Xers (1965-1980)	Gen-Y; NetGen; Millenial (1981-1995)	Post-Milenial (1995-present)
Tapscott (1998)	-	Baby boom generation (1946-1964)	Generation X (1946-1964)	Digital generation (1976-2000)	-
Zemke et al. (1999)	Veteran (1922-1943)	Baby boomers (1943-1960)	Gen-Xers (1960-1980)	Nexters (1980-1999)	-

The table above has made an overview that many people often know and talk about. Bencsik dkk (2016) have grouped generations into six, namely (1) the veteran generation, (2) the baby boom generation, (3) generation X, (4) generation Y, (5) generation Z and (6) generation Alfa. The veteran generation (1925-1946) was a group of people who tended to live in war-filled times. They are accustomed to obedience and fear due to the many colonizations of the past. The baby boom generation (1946-1960) was a group of people who had lived in the post-war period. They lived in a massive order of improvement as well as many revolutions

everywhere. Ideological rivalry was very closely embedded in their lives as part of the influence efforts of the superpowers of the time. Generation X (1960-1980) is a group of people who were born during technological development. The internet was first born to coincide with when they were born, but at that time it was still a prototype (Thaariq, 2021). This generation has begun to feel the existence of computers, although it has not yet become a part of their daily lives. Generation Y (1980-1995) when the development of computers was already maturing. Generation Y achieves antipathy towards their environment and causes conflict situations with their self-confidence, with the persuasion of those who do not tolerate criticism or contradictions, with their overconfidence and career desires (Bencsik et al., 2016). According to the results of the studies conducted, these young people do not tolerate monotonous and individualistic actions or tasks that require thought (Olsovskaja et al., 2015). Generation Z (1995-2010) is a group born at a time when technology is already part of life. High technologies are in their blood, they have grown up in an uncertain and complex environment that determines their point of view on work, study and the world. Arising from their habits, they have different expectations in their workplace (Bencsik et al., 2016). The Alpha generation (2010-present) is a generation with a character of creativity that far exceeds that of the previous generation (including Z). Although they are classified as a new generation, the use of technology, research facilitation and critical vision as their characteristics can already be highlighted (Reis, 2018).

Meanwhile, previous research from Pendergast (2009) also revealed almost the same generational grouping as the research of Bencsik et al (2016). But what distinguishes it is the year of birth and its naming. According to him, the generation consists of (1) the greatest generation (G.I Generation), (2) the silent generation (Silent Generation), (3) the baby boomer generation, (4) generation X, (5) generation Y and (6) generation Z. In his research, the greatest generation (G.I Generation) is a collection of people born around 1901 to 1924, the silent generation born from 1925 to 1942, baby boomers born from 1943 to 1960, generation X born around 1961 to 1981, generation Y born from 1982 to 2002 and generation Z born from 2003. As for the characteristics of generations based on the two studies above, they are as follows.

**Table 2. Characteristics of Each Generation Based on Both Previous Studies**

<b>Label</b>	<b>Characteristics</b>
GI Generation	A generation that has a very high sense of self-confidence, personality, optimism, rationalism to nationalism (Pennington-Gray et al., 2003). In addition, this generation also tends to be patriotic, highly motivated, good work ethic to high commitment (Kagan, 2022).
Veteran Generation	Veterans tend to value loyalty, discipline, teamwork, rewards for hard work, respect for authority and hierarchy, and seniority-driven rights (Hatfield, 2002).
Baby Boom Generation	Almost the same as the veteran generation (Bencsik et al., 2016). But tend to be talented and experienced in handling things (Callanan & Greenhaus, 2008).
Generation X	Generation X tends to be reluctant to network and more interested in advertising and recommitment. It pioneered the free agent workforce and believes security comes with keeping skills current. This generation is likely to find a way to get things done smartly, quickly, and best even if it means breaking the rules (Acar, 2014).
Generation Y	Generation Y is described as individualist, educated, technologically literate, sophisticated, mature, and structured individuals (Valentine & Powers, 2013).
Generation Z	Generation Z can function both in the real world and in the virtual world. They can easily switch between these two worlds, since they consider them complementary to each other (Żarczyńska-Dobiesz & Chomątowska, 2014). The consequence of

Label	Characteristics
	this state of affairs is that Generation Z can easily search and check the information they need. They also quickly share information with others (Dolot, 2018).
Alpha Generation	All alpha generation activities will be directly connected to technology. Thus they will be greatly facilitated with a wide variety of options from emerging technologies (Kuswandi et al., 2021).

Meanwhile, the research conducted by Weston (2006) tends to be the same as previous research studies. But there is a difference in it. According to him, the generational differences consist of (1) the veteran generation (1922-1945), (2) the baby boomer generation (1945-1960), (3) generation X (1960-1980) and (4) the millennial generation (1980-2000). The age or year of birth of a generation serves as the main guideline when defining the characteristics of its generation, but the real division lies in cultural differences. Here are the characteristics between generations according to Weston (2006) presented in the table below.

**Table 3. Generation Characteristics According to Weston**

Label	Characteristics
Veteran Generation	Their initial working environment was a large bureaucratic organization with a clearly described hierarchy. Rules, roles, policies, and procedures are clearly outlined. This standardization and structure contributes to the organization's ability to grow, develop and succeed (Hatfield, 2002).
Baby Boomer Generation	The attention and prosperity that the Baby Boomer generation gives, along with changing worlds and societal values, creates an emphasis on the freedom to be themselves and "I or me" generation.
Generation X	Generation X expects success from short-term jobs with less permanent relationships. As children, Generation X saw their parents work long hours and sacrifice free time to succeed at work. This has motivated them to want a job where they can create a balance in their work and personal life.
Millennial Generation	Millennials grew up in a multicultural, multiethnic, and global world with biracial and multicultural marriages that shaped families and neighborhoods with pluralistic backgrounds. This generation is the most traveled generation of all time and, with the Internet, is likely to have pen pals on the other side of the world just like the city next door. Communication through technology is the cornerstone of this generation with mobile phones, text messages, and emails creating an always-connected environment.

Thus, the author tries to present the label of generational differences in the form of a group of tables as done by (Reeves & Oh, 2007) presenting based on existing sources. As for the differences in generations based on references known to many people, it can be seen as follows.

**Table 4. Labeling Generational Differences Based on Predominance Known by Many People**

Source	Label					
Bencsik et al. (2016)	Veteran Generation (1925-1946)	Baby Boomer Generation (1946-1960)	X Generation (1960-1980)	Y Generation (1980-1995)	Z Generation (1995-2010)	Alpha Generation (2010-present)
Pendergast (2009)	GI (1901-1924)	Silent Generation (1925-1942)	Baby Boomer Generation	Generation X (1961-1981)	Generation Y (1982-2002)	Generation Z (2003-present)

Source		Label		
		n (1943-1960)		
Weston (2006)	Veteran Generation (1922-1945)	Baby Boomer Generation (1945-1960)	Generation X (1960-1980)	Millennial Generation (1980-2000)

Based on the table above, the author concludes that generational differences can be taken from the common thread consisting of (1) the GI generation (the greatest), (2) the veteran generation (silent), (3) the baby boomer generation, (4) generation X, (5) generation Y (millennials), (6) generation Z and (7) the alpha (alpha) generation. In this study, the GI generation (the greatest) was born between 1901 to 1924, the veteran (silent) generation was born between 1925 to 1946, the Baby boomer generation was born between 1947 to 1960, generation X was born between 1961 to 1980, generation Y (millennials) were born between 1981 to 1999, generation Z was born between 2000 to 2010 and Generation Alfa (alpha) was born between 2011 until now.

In addition, news broke that there were predictions about the emergence of a new generation after alpha. In a popular article published by Kumparan (Hadi, 2019) mentioned that based on the pattern of the letters of the Greek alphabet, it is predicted that a new generation will appear called the Beta generation. According to the article, the birth year of the beta generation is in the range of 2025 onwards. Furthermore, in the article entitled "Beta Generation: Welcome to the "artificial" generation" it is stated that if the alpha generation is known as digital natives, then the beta generation will likely be known as the artificial generation. This means that this generation will know and grow with artificial intelligence technology as part of their lives (Pacific Ventury, 2020). Although actually the discussion about the beta generation is still not found in many study articles or scientific research. Thus, the author can give an overview of the label of the entire generation through the following table.

**Table 5. Generational Differences by Year of Birth**

Year of Birth	Label
1901-1924	GI Generation
1925-1946	Veteran (silent) Generation
1947-1960	Baby Boomer Generation
1961-1980	Generation X
1981-1999	Generation Y (Millennial)
2000-2010	Generation Z
2010-2024	Alpha Generation
2025-beyond	Beta Generation

Successful instruction can be achieved if the educator's understanding about learner characteristics is also good (Golke et al., 2022). Thus, from here the author can analyze the characteristics of the learner that can be taken. This means that the author illustrates the learning characters that belong between generations. This analysis is based on a general review of the characteristics previously described. The results of the analysis are as follows.

**Table 6. Characteristics of Generational Learners**

Label	Learner Characteristics
GI Generation	Tends to be initiative in various existing issues. The approach used tends to be teacher-centered. In a sense, teachers or educators play a major role in the formation of this generation.
Veteran (silent) Generation	Tend to rely on the rules that exist in solving learning problems. The learning process is viewed based on a clear and visible structure. Standardization of learning must exist for the sake of controllable behavior change.
Baby Boomer Generation	The learning process that goes through tends to be the same as that of the veteran generation. But this generation tends to be talented and experienced in solving a challenge. The learning process has begun to lead to structured independence.
Generation X	Most are more motivated to see parents who work part-time. This means that this generation sees balance as the most important aspect of life. So, the learning process that goes through is to pursue this aspect of balance. In addition, this generation has also tended to look for solutions to any problems, even if they have to break the rules.
Generation Y (Millennial)	The learning process is integrated with technology, thus creating self-regulated learning from each learner. Although the pattern is still neatly structured.
Generation Z	The Internet is a close friend. The construct of learning has become abstract. Learning resources are very open. Allows them to learn without existing barriers
Alpha Generation	All learning activities have been directly connected to technology. A very mature computerized facility. This makes them have a high tendency to creativity by utilizing existing digitalization
Beta Generation	(Perhaps) they will grow along with the sophistication of artificial intelligence technology that allows them to interact with their supporting devices. Learning activities are not only directly connected, but have permeated the scientific construct.

The variety of learner characteristics, which are a substantial part of the learner, is an important concern to address some of the problems that the learning system must address, such as supporting the design and development of personalized/adaptive learning materials, defining the criteria to be used by the recommender system to suggest material according to some learning characteristics, helping learners to search for learning materials semantically, and enabling the reuse of knowledge for humans and systems (Labib et al., 2017).

Looking at the characteristics of learners from the generation above reflects that conformity (adaptive) is the answer in dealing with each generational difference, especially regarding the characteristics of learning. Although educators are in a different generation from their students, that doesn't mean educators can't adjust to them. It is evident from the Thariq et al (2020) services who providing digital learning media assistance to teachers shows that age is not the main barrier in adjusting to learners. As the statement from Lai & Hong (2015) that actually although the younger generation of students may do things and learn a little differently, the way they use digital technology is similar to that of the older generation. So that educators should adjust to their students (learner-centered approach).

#### 4. Conclusion

This study concludes that there are differences in the generations of humans living in this world, namely (1) the greatest generation (GI) (1901-1924), (2) the veteran generation (silent) (1925-1946), (3) the baby boomer generation (1947-1960), (4) generation X (1961-1980), (5) generation Y (Millennials) (1981-1999), (6) generation Z (2000-2010), (7) the alpha generation



(2011-2024) and (8) the beta generation (2025-onwards) which is predicted to be present in the near future. The characteristics of learners from each generation tend to be different due to the evolving situation and times. The author concludes that the characteristics of learners from each generation are (1) the greatest generation (GI) which tends to initiative by prioritizing structured commitments, (2) the veteran generation (silent) which tends to require standardization in learning, (3) the baby boomer generation which tends to prioritize independence in learning, (4) generation X who tends to prioritize balance in learning, (5) generation Y (millennials) who tend to be able to manage their own learning process (self-regulated learning), (6) generation Z who tend to construct learning abstractly, (7) alpha generation who tend to optimize their creative side and (8) beta generation who tend to optimize learning with artificial intelligence interactions as part of their lives.

Looking at the findings of the review, the authors provide recommendations so that educators can adapt learning to the generation being taught, although there are definitely gaps in it. Thus, it is not only necessary to require training, but also needs to build a learning system that facilitates all, including educators, to be able to carry out learning according to the journey of the generation they are facing (lifelong learning).

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