



The Characteristics of Generation Z Students and Implications for Future Learning Methods

Grendi Hendrastomo*, Nur Endah Januarti

Sociology Education Department, Faculty of Social Science, Law, and Political Science,
Universitas Negeri Yogyakarta

*Corresponding Author. Email: ghendrastomo@uny.ac.id

Abstract: This study aims to uncover the characteristics of the present generation (Millennials / Gen-Z) as part of providing an overview for teachers to better understand their students, so that they have an impact on improving the quality of learning. The research used a descriptive method with a qualitative approach. The subjects of this study were students / high school students in Yogyakarta, Indonesia. Data collection techniques using observation, interviews and focus group discussions. Data analysis was carried out using an interactive approach where the data that had been collected was then reduced to simplify the information obtained and then presented and concluded descriptively. The results of this study indicate that the characteristics of today's students differ from those of the previous generation. Students currently have self-confidence, creativity, competitive competitiveness, realistic realism, curiosity, independence, and exclusive exclusivity. From the character of students, the effort to recognize the prospective teacher is to change the mindset, encourage the creativity of prospective teachers in developing the learning process and empowerment strategies, and it is necessary to develop a variety of creative and innovative learning media, able to utilize technology to support the learning process and increase the intensity of communication and encourage inclusiveness. The ability of teachers to understand the characteristics of students is the key to achieving effective and enjoyable learning. Teachers inevitably have to merge and enter into the thinking of millennials/gen-z.

Article History

Received: 06-04-2023

Revised: 10-05-2023

Accepted: 28-05-2023

Published: 16-06-2023

Key Words:

Teaching; Student
Characteristics;
Learning Innovation;
Millennials, Gen-Z.

How to Cite: Hendrastomo, G., & Januarti, N. (2023). The Characteristics of Generation Z Students and Implications for Future Learning Methods. *Jurnal Kependidikan: Jurnal Hasil Penelitian dan Kajian Kepustakaan di Bidang Pendidikan, Pengajaran dan Pembelajaran*, 9(2), 484-496. doi:<https://doi.org/10.33394/jk.v9i2.7745>



<https://doi.org/10.33394/jk.v9i2.7745>

This is an open-access article under the [CC-BY-SA License](#).



Introduction

Many studies have been carried out on present-day generations due to the sizeable population (Kolnhofer-Derecskei et al., 2017; Pološki Voki & Aleksi, 2020; Skiba & Barton, 2006; Worley, 2011). According to data from the National Development Planning Agency (Bappenas) there are 63 million millennials (Sembiring, 2022). From the data of the Indonesian population in 2018, there are 22 million aged 15-19 years, and this is the generation currently in junior high school, senior high school and early semester students in university (Institute, 2019). This generation z (gen-z) is currently undergoing learning, so various efforts are needed to understand changes in the characteristics of generations as an effort to develop appropriate learning methods.

The world of education is a dynamic world. The function of education as a way to develop thinking, action and behaviour, encourages education to always adjust to the times (Kopnina, 2020; Oktaviani et al., 2022). In the world of education there is nothing static, the curriculum always changes, knowledge continues to grow, the actors involved in it, both teachers and students continue to morph (Karagiannopoulou & Entwistle, 2019). All of them support the renewal of knowledge within the framework of education. Education is a process



for growing, developing, maturing, and making things that are not organized into order. Education creates culture and order, a kind of domestication process. Education is also a process of developing various potentials in human beings, such as academic, relational, talent, physical abilities and artistic abilities (Koesoema, 2018). The development of various potentials is applied in activities in schools, especially in learning. Learning is a core part of education where teachers and students are related to building and developing knowledge.

In the ecosystem of education and learning, the running of the learning process is determined by several aspects, such as education policy, school management, facilities and infrastructure, teachers and students. Education policy is related to the steps to achieve learning objectives, and curriculum development. School management is related to the role of the school and the school culture developed to support learning outcomes (Kopnina, 2020). Facilities and infrastructure support overall learning. The most important aspect of all is lies in the actor and subject of learning, namely the teacher and students. The teacher is a major milestone in achieving quality learning. The learning objectives will be running and in accordance with the curriculum because of the role of the teacher. The teacher becomes an actor who provides dynamics and colour in education (Risan, 2022). The teacher becomes an inspiration and example for students. Good learning is determined by how the teacher understands students, so that the material delivered is easily understood by students. Understanding students is an important point in learning (Shahmohammadi, 2015). An understanding of the subject of learning becomes an important part of developing the theory, implementation and practice of teaching education (Anvar, 2022; Budiningsih, 2015). Submission of subject matter is designed based on the needs and characteristics of students. Teachers need to develop learning models and strategies based on student characteristics.

Didactic situations in class require teachers to be able to master and direct students well. Some skills are needed, such as the ability to organize and master the class so that the class becomes a comfortable place to learn; a flexible attitude in implementing and applying learning content; deep knowledge of the subject matter; and having a variety of teaching methods so that they can build effective and enjoyable learning (Koesoema, 2018). The development of learning methods to encourage creativity in teaching requires an understanding of student characteristics. Nayereh Shahmohammadi's research (2015) shows the main characteristics of a teacher, namely having good behavior, a friendly personality, being serious and not easily swayed, paying attention to each student, and giving responsibility answer more to students based on competence. The results of this study come from the perspective of students to determine what kind of teacher character students want. Asri Budiningsih (2015) article, shows that student characteristics are included in the learning conditions variable. As a condition variable, it means that the characteristics of students must be accepted as they are and used as a basis for work in developing learning designs. Characteristics of students become one of the fixed variables that become a benchmark in developing learning activities (Sri Handoyo et al., 2019). Students today have different characteristics compared to the previous generation.

Today's students are the generation of the present era or the post-millennial generation, a generation that has very different attitudes and behaviour compared to previous generations. Instant culture, fast, eliminating processes, results-oriented is one of the characteristics of the current generation. Information technology was created to make it easier for humans to experience significant role enhancements. Students seem to not be able to live without technology, in many cases using technology for things that are not in accordance with their designation. Like, increasing fraud (suspected in national exams, 80% of schools are dishonest (Fauzi, 2015)), a culture of violence among students, copy paste, and massive

use of social media. Different generations, different treatments. At present, the generation who are students in schools is different from the previous generation (Monaco & Martin, 2007). When many people tend to see millennial generation characters, now students in school have changed generations. Their characteristics are not the same as the millennial generation. They are a new generation that has a new perspective.

Existing research is still limited to the perspective and point of view of policy makers and teachers. In this position, the researcher in this study wanted to see from the point of view of the subject who was the target of learning by looking at the characteristics of millennial students from their point of view. Discussion of the characteristics of the post-millennial generation is important to discuss. By knowing the characteristics of this generation, teachers can use it to design appropriate learning models and strategies (Lauermann, 2014). The teacher can also develop non-academic actions such as approaches to students, student problems, and student character formation. In general, this study aims to uncover the characteristics of the present generation (millennials generation/gen-y&z) as part of providing an overview for teachers to better understand their students so that they have an impact on improving the quality of learning.

Research Method

This study uses a descriptive method with a qualitative approach. Through this method, the characteristics of students are explored in depth to provide an overview for teachers to develop appropriate learning strategies (Miles et al., 2018). The research was conducted at a senior high school in the Special Region of Yogyakarta, with informants being high school students in the Special Region of Yogyakarta. There were 12 informants in this study who had variations in gender, level/class, and came from the criteria of public schools, private schools, religion-based schools, multicultural schools. Data collection was carried out using observation by looking at the activities of students while in the classroom and outside the classroom during study hours. To find out students' perspectives, informal interviews were conducted to explore students' learning desires and motivation so that they could map and identify student characteristics.

To corroborate the findings as well as validate the data, focus group discussions were carried out with the aim of identifying various perspectives and points of view in the research themes studied and deepening understanding of an issue from the participant's perspective (Hennink, 2014). Focus group discussions involving 5-6 informants who specifically discussed and found differences and similarities in perspectives related to the position (characteristics) of current students (millennials) that teachers should know as a reference in improving the quality of learning. Data analysis was carried out using an interactive approach (Miles et al., 2018) where the data that had been collected was then reduced to simplify the information obtained and then presented and concluded descriptively.

Results and Discussion

The following results and discussion are divided into 3 parts. In the first part it contains the characteristics of the z generation, in the second part it contains the characteristics of the z generation students, and in the third part it contains learning methods that can be developed by the teacher by looking at the characteristics of the z generation students.

Gen-Z Student

Results Discussions about the characteristics of students today will begin with a discussion of generation z, the period in which students are grouped and seen in general

characteristics. During this time, the millennial generation is more often talked about compared to generation z. Millennials are discussed because they currently dominate various fields of work and activities, not because of the amount but because of the creativity that drives innovation on all fronts. The term millennial generation in some literature refers to the year of birth. The National Chamber Foundation (Badan Pusat Statistik, 2018), defines it as the generation born between 1980-1999.

Table 1. Generation Grouping

Generation Name	Year of Age
Silent Generation (Generasi Veteran)	1925-1946
Baby Boom Generation	1946-1964
Generasi X	1965-1979
Generasi Y (Millennial)	1980-1999
Generasi Z	2000-

Source: National Chamber Foundation (Badan Pusat Statistik, 2018)

Other sources say millennials are the generation currently 16-36 years old or born in the 1980s and early 2000s (Faisal, 2017)(Sebastian, 2016). Referring to these sources, generation Y and Z have slices so that they are often equated in one term millennial generation, although in detail the Z generation has slightly different characteristics than Y generation. In 2015 the number of generations of millennials born from 1980-2000 reached 84 million people (33%) of the total population of Indonesia (Sebastian, 2016). The study conducted by the Boston Consulting Group in 2011 shows several characteristics of the millennial generation (Badan Pusat Statistik, 2018):

- The reading interest of the millennial generation tends to decline. Y and Z generations tend to choose to read through their smartphones.
- Social media accounts must be owned by this generation. Social media is used as a communication tool and information centre.
- Mobile phones are preferred over television. Watching television is now being replaced with youtube which can be accessed via a smartphone.
- The family becomes the centre of consideration and determines the decision-making.

Typical of this generation in general can be used as a basis for seeing students today. Current and future learners, especially in senior high school, are the last millennial generation, which in this study is classified as generation Z, which attaches lifestyle with technology, especially digital, virtual collaboration, nomadic and instantaneous. Today's students are students born in early 2000 who are socially more open, politically freer and literate in technology and information early on. According to 2017 Susenas data, generation z reaches 29.23% of the total population of Indonesia, which when combined with generation y makes millennial in Indonesia reach 62.98% of the total population (Badan Pusat Statistik, 2018).

When compared, millennial generation (Y and Z) characteristics differ from previous generations. Faizal in the book *Generasi Phi: Memahami Milenial Pengubah Indonesia*, summarizes the differences between generations as follows:

Table 2. Differences in Challenges and Views among Generations

Generation	Challenges	Perspective
Beta Generation, born 1925-1964; youth: 1930-1966	Political-economic instability; building the nation; the inclusion of a threatening ideology	Heroic, optimistic about the future, ideological, culture of shame, upholding self-esteem and group
Omega Generation, born	High competition;	Adaptive, competitive, social

1965-1979; youth: 1970-1998	individualism; limitations of expression space; foreign cultural influences	climber, orientation to achievement, pursuing certain skills and standards of expertise
Generation Phi / Millennial/z, born 1980-2000; youth: the beginning of the 21st century	Effects of mobile and digital developments; government corruption, radicalism, free markets, external lifestyle influences	Tends to passion and creativity, pluralism, communal, alienated, sensitive

Source: (Faisal, 2017)

Seen from that comparison, challenges in each generation lead to different ways and strategies to deal with them. Exceptional technological influences, put pressure on students to isolate this generation in loneliness. Digital mobile devices and media later became the 'friends' of this generation.

Consequently, the proliferation of social media developments has an impact on the emergence of individual and group conflicts such as hate speech, bullying, pornographic behavior and pornography. This proves that the development of civilization has consequences for the increasing complexity of the problems that must be faced and in the end the problem must be resolved. Furthermore, from the results of Ian Goldin's research (Nuh, 2017) on the data and the phenomenon of the Age of Discovery, it is stated that social complexity has a much higher speed than cognitive capacity. As a result, there will be more problems that have not been known for case causes and solutions. In addition, various social problems are present to accompany the dynamics that occur in human life. Starting from the clash of various components of the nation because of the group's identity over certain ethnic groups, religions and groups. Facing increasingly complex problems, various solutions are needed. This is the object of educational problems in this century. Building the personality of the nation as students and the next generation amid increasingly complex developments is not easy (Rohmadi, 2012). Characteristics of this generation of students need to be considered in the design of education and learning to be able to read future trends and competencies needed.

Student Characteristics

Curriculum Merdeka is the most actual reference in the development of education in Indonesia. This curriculum encourages change in various aspects from the shift of the teacher-oriented paradigm to student-oriented; encourages scientific learning models that build students' thinking construction starting from observing, questioning, experimenting, associating, and communicating; and efforts to encourage high-level understanding by providing 21st century capabilities, i.e. critical thinking, communication, collaboration and creativity in learning activities (Kemdikbud, 2022; Ujang Cepi Barlian et al., 2022). Through this curriculum students are invited to explore the world, conduct analysis and find solutions to the problems that befall them.

Current high school students tend to show improved quality in terms of knowledge. The swift information and ease of access make this generation experience a faster development of mindset. The characteristics that emerge and characterize this generation are caused by social change, technological penetration and the complexity of social problems (Gluchmanova, 2015). These characteristics become reinforcement of this generation's uniqueness found in students.

a) Confidence

Self-confidence is an encouragement from within to freely actualize their potential. In learning, self-confidence is related to the ability of students to actively

participate and show their potential. Today's students are more confident, as indicated by their willingness to be actively involved in learning activities. These students are not ashamed to ask questions and dare to voice their ideas.

The strength of students who have a high level of trust will be able to encourage self-achievement to understand better knowledge. High self-confidence encourages students to dare to ask and express opinions (Arifin et al., 2022). Learning activities in the classroom will encourage interactive discussion between fellow students and between students and teachers. The disadvantage is that sometimes the level of self-confidence is not proportional to the desire to seek information so that students are more likely to express their opinions without understanding.

b) Creative

Creativity is an extraordinary way of thinking. Bring up ideas in different ways. Students today have the ability to come up with ideas in unusual ways. Students love challenges that they will eventually solve in more efficient and effective ways. Their creative ideas are derived from unlimited information.

In learning, according to students, interesting learning tasks and activities are challenging. These tasks will stimulate their creativity to do it thoroughly. They will try to explore new things when they are given the freedom to create.

The positive side of these characteristics in learning will encourage problem solving abilities. Students will increase their critical power and simultaneously develop their interests and talents. Creativity is also the key to navigating the challenges of global life (Gralewski, 2019). The downside, sometimes this creativity actually appears when learning activities are considered boring by students. According to students, the tendency of teachers to teach with a monologue, makes the learning process monotonous and not challenging. Under these conditions, students ultimately tend to do creativity, for example by drawing, playing on smartphones, - making noise and making them unruly.

c) Competitive

Competing with each other is a unique characteristic of this generation. The desire to be the best is done in various ways. Different from the previous generation, the desire to defeat others tends to be strong. The concept of defeat here applies not only in the academic domain (achievement) but also in the non-academic realm. Students today tend to be driven to beat others. In their minds there is only one choice, to be a winner or a loser.

Competition encourages them to be better and becomes an extra motivation in learning (Maryanti et al., 2020). On the other hand, competition can also encourage students to do anything in order to be at the forefront. This condition is exacerbated by the closed nature of students, the absence of role models and the decline in their values. The negative side of this trait is the emergence of a desire to bully others. When they don't agree, they tend to oppose, resist and pressure others.

d) Realistic

The current trend of students has been able to plan what they will do in the future. They realize that between expectations and reality are often inappropriate, so they begin to organize themselves to be pragmatic in preparing what they want. In learning, this realistic nature blends in with their desires to get the knowledge they really feel the benefits of. The material taught is easier for them to understand when using contextual and realistic examples. They are more motivated to learn material that really benefits them.

e) Curious

The desire to get the latest information and quickly becomes one of the characteristics of this generation. The existence of technology makes it easier for students to obtain information. In learning, these characteristics support the scientific learning model because students tend to be active and have high curiosity (Shin & Kim, 2019). At this level the teacher must be prepared with the questions the students convey.

Having high curiosity makes students become the front row in fashion, trend and supports the nature of their competition. On the other hand, the desire to know also makes them addicted to information, especially through social media. The tendency to find out all information from social media, makes this generation fear when they miss something.

f) Independent

Independence is an effort to get things done on your own. Today's students want to try everything themselves. According to them, doing it yourself reduces their dependence on others and provides real experiences through experiments that they do themselves. In learning, they also tend to learn on their own and find the information they need. Existing technology supports this independent learning model that can be done with e-learning and other media (Yates et al., 2021). The existence of mobile phones and internet access encourages students to learn anything through YouTube and other media platforms.

g) Exclusive

Students tend to group based on similarity. This condition is prominent in the classroom, where click between students is formed. This can be seen from the sitting position of students who tend to be close to their group friends. Interactions between students are reduced especially in different groups. This gives rise to exclusivity, where different students are considered not as mindful and tend to be shunned.

The tendency to form groups or communities that agree, on the one side, strengthens the bonds between them, but on the other side, raises the seeds of opposition, intolerance and indifference to others.

The seven characteristics of the z generation students need to be used as initial parameters to get to know students more closely at this time. The characteristics of these students are also identical to those expressed by David Stillman and Jonah Stillman who portray the main characteristics of z generation in America (Stillman & Stillman, 2018), according to him there are 7 main characteristics of z generation:

- a) **Phygital**, where all physical aspects have digital equivalents. For this generation, the real world and the virtual world overlap each other. Virtual is part of their reality.
- b) **Hyper-Customization**, this generation strives to identify and customize their identity to be popular.
- c) **Realistic**, this generation is accustomed to a pragmatic mindset in planning and preparing for the future. This pragmatic nature is different from the more idealistic y generation.
- d) **Fear of Missing Out (FOMO)**, this generation is very afraid to miss something. Always worry that their movements are slow and not going in the right direction.
- e) **Weconomist**, this generation knows the world with its shared economy. They seek to find new ways that are practical and cost-effective. This generation seeks to build partnerships to find solutions to various problems.

- f) Do it yourself (DIY), grow with YouTube, make them able to learn anything, the z generation is sure that they can do anything themselves. This generation is very independent and tends to clash with the collective values developed by y generation.
- g) Encouraged, z generation believes that there is only one choice between being a winner or a loser. This generation is more competitive than others.

By looking at these characteristics provide an illustration for teachers and policy makers to start thinking of different ways of addressing this generation. Each generation has different characteristics, this is what makes education and teaching dynamic. According to Hollins (2011), the most important aspect of teaching and learning is how well teachers know students. The teacher needs to know students as individuals; as members of social and cultural groups; as a learner with certain characteristics; and as learners at a certain point in their academic, emotional, psychological and social development. Teachers, schools and stakeholders must change to suit the current conditions and characteristics of students.

Enhancing Teaching Strategy

Knowing the characteristics of students provides opportunities for teachers, especially to develop themselves, change and make the information as a basis for developing learning models and strategies. It is common for teachers to do so that what they are doing is more oriented towards material delivery. Although the current curriculum emphasizes active student learning, the models and strategies used for one material are usually the same and are used for all classes. This condition cannot be separated from the lack of analysis of the characteristics of students carried out by the teacher. The teacher is accustomed to assuming that all students have the same characteristics, so that even though the generation of students is different, the learning model and strategy do not change.

Today's teachers need to adjust to the changing era and changes in the characteristics of students. Learning will be more meaningful, fun and make students understand when the teacher is able to package interestingly and in accordance with the characteristics of students. For example, teaching in a special sports class would be different from teaching in social or science class. Teaching in city public schools with private schools in remote areas is also clearly different. The condition of students in special sports classes tends to be more active and prioritizing physical compared to other classes. These characteristics need to be used as reference material for teachers to determine learning models and strategies.

Considering the characteristics of the Z generation students discussed earlier, what should the teacher do to improve the learning experience of students to become more enjoyable? In general, based on the characteristics described, to develop the learning process there are several things that can be done:

- a) Changing mindset

Millennials (y and z) were born in a sophisticated era. This generation is close and fluent in using technology. Social media has become their main need to exist and interact. This generation is growing amid the development of gadgets, fast internet penetration and the emergence of applications that bring convenience to humans. This condition certainly affects their characteristics. To develop learning, it is necessary to change the teacher's mindset from the student's perspective. Teachers must be willing to throw themselves into this generation. At present the learning process is still shackled to the old mindset even though students live in a time of extreme sophistication (Right, 2018).

- b) Creative to develop learning models and strategies

When faced with the characteristics of creative students, learners are also required to develop that creativity. Learning models and strategies need to develop the

creative side to utilize students' abilities while providing challenges to students. Learning models and strategies need to consider the closeness of students to technology and pragmatic realistic student needs, so that learning puts forward contextuality by connecting subject matter and real reality. Hollins (2011), proposes an approach to change social discourse in learning to teach using an investigative approach during field experience involving teachers, schools and students in joint observation, collaboration, and problem solving. This approach is intended to focus on the relationship between student characteristics, learning, pedagogical practices, and learning outcomes that will direct candidates to understand the power of their own practice in facilitating student learning.

Learning models and strategies must be adapted to the learning objectives, subject matter and characteristics of students. Learning in one class does not have to be the same as the other class, it must be developed learning that adjusts to the needs and characteristics of students.

c) Variative in using learning media

The tendency of students to get bored with the learning process needs to be overcome by using a variety of learning media. The use of interactive media too often will make students bored. Use a variety of learning media to stimulate creativity and distribute the competitive nature of students. Teachers need to consider empowering using psychomotor physical aspects of students by using non-technology learning media (ecomedia). The use of ecomedia will stimulate student creativity while at the same time breaking down exclusivity through activities that provide opportunities for students to mingle.

d) Utilizing technology to support the learning process and increase the intensity of communication

Millennial generation students are students who have the ability to use technology. They tend not to be able to let go of technology in their lives. Various applications, social media, games, and entertainment can be accessed through a smartphone. These conditions need to be taken into consideration in developing the learning process. Teachers must creatively use technology-based applications, social media or online video platforms to support the learning process. Learning should not be antipathetic to technology, but instead embrace and make technology a learning medium. Teachers also need to develop communication skills. Existing social media can be used as a means of increasing the intensity of communication with students. According to Carroll et al. (2012), social media plays an important role in the development of learning because social media is used by students, almost like probing extensions, to deepen their thoughts, feelings and understanding of the subject and learning for students.

Teachers need to develop a patient attitude. According to students, they were afraid of the 'killers' teacher and finally they chose to be silent rather than being scolded. This condition will certainly hinder the learning process indirectly.

e) Encourage inclusiveness

Providing space for diversity with freedom of dialogue between students can be done to reduce clicks between them. The exclusive tendency of groups in the class can be minimized through encouragement, invitation and teacher intervention in the learning process. Teachers need to use their authority to design learning processes that blend students. Equality in learning also needs to be upheld by eliminating the

grouping of students based on academic abilities. In this condition, the teacher's knowledge and understanding of individual students becomes very important. The ways to develop this learning need to be tried to encourage students' motivation which will ultimately deepen students' understanding.

Table 3. Learning Development based on Characteristics of Students

Student Characteristics	Learning Development
Confidence	Students are given opportunities and space to come up with ideas and thoughts. Can be done by developing discussion and problem solving in learning activities.
Creative	Teachers need to develop the ability to design learning strategies that provide opportunities for students to develop their creativity. Can be done with a project-based learning model.
Competitive	Provide challenges for students in the learning process. Give space for students to show off and present their work.
Realistic	Learning needs to put forward material that is in accordance with reality. Develop real, realistic and contextual examples so students can understand the benefits of learning material.
Curious	Learning Discovery needs to be developed to provide opportunities for students to explore and construct their knowledge. Give students the freedom of imagination by building concepts.
Independent	Develop learning media that provide opportunities for students to be able to learn independently. Create YouTube content as a learning resource. Develop e-learning to help students learn at any time.
Exclusive	Use ecomedia to stimulate psychomotor students, develop collaboration between students and intervene learning processes to blend students. Develop values of inclusiveness in learning.

Buskist (Keeley et al., 2016), found some of the most important aspects of good teaching: (1) having realistic expectations and fair valuation practices; (2) have knowledge of the material being taught; (3) close to students and has a strong personality, (4) has respect; (5) creative and interesting; and (6) enthusiastic. The aspect of closeness with students requires an understanding of their students.

The ability of teachers to understand the characteristics of students is the key to achieving effective and joyfull learning. The teacher inevitably has to merge and enter into the millennial generation's thinking. The teacher's mindset and behavior are important aspects that contribute to student output (Hill et al., 2019). The teacher must continue to change the mindset and adjust to the characteristics of students. Creativity, exemplary and open nature of change are the keywords to improve the learning process.

Conclusion

The findings of this study conclude that knowing students' characteristics in every generation is a way to improve the quality of learning. The characteristics of students need to be known by the teacher because so far, the focus of the development of learning is more towards the material, strategies and abilities of the teacher. In fact, to develop material and good learning not only comes from the ability of the teacher but also needs to look at the subject of the learner. Analysis of the characteristics of students is needed so that the learning strategies developed are appropriate for the delivery of material to students. Moreover, these students are part of the millennial generation (y and z) that have different characteristics from the previous generation. Characteristics of z generation students (1) have high self-confidence; (2) creative; (3) competitive; (4) realistic; (5) have high curiosity; (6) independent; and (7) tend to be exclusive. These seven characteristics are pictures of high

school students today. To improve the quality of learning, a variety of strategies can be developed from these characteristics, such as (1) the willingness to change the mindset; (2) creative to develop learning models and strategies; (3) varied in using learning media; (4) utilizing technology to support the learning process and increase the intensity of communication; and (5) encourage inclusiveness. Analysis of the characteristics of students becomes the basis for developing learning to be more effective, efficient and fun so that learning objectives can be achieved. Mapping the characteristics of students needs to be continuously developed because this generation will soon be replaced with the next generation which will certainly have different characteristics.

Recommendation

Learning improvement needs to be done continuously. One thing to note is the change in the characteristics of the generation. Each generation requires different learning strategies so that the quality of learning can be continuously improved. Therefore, we recommend policy makers to provide regular and ongoing training for teachers to prepare learning for Generation Z. For teachers, changes in the characteristics of generations become a necessity that must be faced. Teachers need to identify student characteristics as part of the initial assessment so that they can become the basis for developing appropriate learning strategies and methods.

References

- Anvar, D. (2022). The Relevance of Teaching Social and Humanitarian Sciences in the Education of the Future Generation. *American Journal of Social and Humanitarian Research*, 3(5), 344–348. <https://globalresearchnetwork.us/index.php/ajshr/article/view/1133>
- Arifin, B., Saputra, S. Y., Muzakki, A., Setiawan, E., & Jumareng, H. (2022). Increase Students' Self-Confidence and Reduce Anxiety During Covid-19: Is Coping Strategy Becomes the Solution? *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(5), 4171–4180. <https://doi.org/10.31004/obsesi.v6i5.2456>
- Badan Pusat Statistik. (2018). *Statistik Gender Tematik: Profil Generasi Milenial Indonesia*. Kementerian Pemberdayaan Perempuan dan Perlindungan Anak.
- Budiningsih, C. A. (2015). Karakteristik Siswa Sebagai Pijakan Dalam Penelitian dan Metode Pembelajaran. *Jurnal Cakrawala Pendidikan*, 1(1). <https://doi.org/10.21831/cp.v1i1.4198>
- Carroll, F., Jenkins, A., Woodward, C., Kop, R., & Jenkins, E. (2012). Exploring how social media can enhance the teaching of action research. *Action Research*, 10(2), 170–188. <https://doi.org/10.1177/1476750311424945>
- Faisal, M. (2017). *Generasi Phi, Memahami Milenial Pengubah Indonesia*. Republika.
- Fauzi, G. (2015). *Indeks Kejujuran Sekolah Memprihatinkan, Menteri Anies ke KPK*. <https://www.cnnindonesia.com/nasional/20151222122808-20-99841/indeks-kejujuran-sekolah-memprihatinkan-menteri-anies-ke-kpk>
- Gluchmanova, M. (2015). The Importance of Ethics in the Teaching Profession. *Procedia - Social and Behavioral Sciences*, 176, 509–513. <https://doi.org/10.1016/j.sbspro.2015.01.504>
- Gralewski, J. (2019). Teachers' beliefs about creative students' characteristics: A qualitative study. *Thinking Skills and Creativity*, 31, 138–155. <https://doi.org/10.1016/j.tsc.2018.11.008>
- Hennink, M. (2014). *Focus Group Discussions*. Oxford University Press.

- Hill, H. C., Charalambous, C. Y., & Chin, M. J. (2019). Teacher Characteristics and Student Learning in Mathematics: A Comprehensive Assessment. *Educational Policy*, 33(7), 1103–1134. <https://doi.org/10.1177/0895904818755468>
- Hollins, E. R. (2011). Teacher Preparation For Quality Teaching. *Journal of Teacher Education*, 62(4), 395–407. <https://doi.org/10.1177/0022487111409415>
- Institute, I. R. (2019). *Indonesia Millennial Report 2019*.
- Karagiannopoulou, E., & Entwistle, N. (2019). Students' Learning Characteristics, Perceptions of Small-Group University Teaching, and Understanding Through a "Meeting of Minds." *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.00444>
- Keeley, J. W., Ismail, E., & Buskist, W. (2016). Excellent Teachers' Perspectives on Excellent Teaching. *Teaching of Psychology*, 43(3), 175–179. <https://doi.org/10.1177/0098628316649307>
- Kemdikbud. (2022). *Kurikulum Merdeka, Membangun Potensi Siswa sesuai Fitrahnya*. <https://www.kemdikbud.go.id/main/blog/2022/02/kurikulum-merdeka-membangun-potensi-siswa-sesuai-fitrahnya>
- Koesoema, D. (2018). *Pendidikan Karakter: Strategi Mendidik Anak di Zaman Global*. Grasindo.
- Kolnhofer-Derecskei, A., Reicher, R. Z., & Szeghegyi, A. (2017). The X and Y Generations' Characteristics Comparison. *Acta Polytechnica Hungarica*, 14(8), 107–125. <https://doi.org/10.12700/APH.14.8.2017.8.6>
- Kopnina, H. (2020). Education for the future? Critical evaluation of education for sustainable development goals. *The Journal of Environmental Education*, 51(4), 280–291. <https://doi.org/10.1080/00958964.2019.1710444>
- Lauermann, F. (2014). Teacher responsibility from the teacher's perspective. *International Journal of Educational Research*, 65, 75–89. <https://doi.org/10.1016/j.ijer.2013.09.005>
- Maryanti, N., Rohana, R., & Kristiawan, M. (2020). The Principal's Strategy in Preparing Students Ready to Face The Industrial Revolution 4.0. *International Journal of Educational Review*, 2(1), 54–69. <https://doi.org/10.33369/ijer.v2i1.10628>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2018). *Qualitative Data Analysis: A Methods Sourcebook*. SAGE Publications.
- Monaco, M., & Martin, M. (2007). The Millennial Student: A New Generation of Learners. *Athletic Training Education Journal*, 2(2), 42–46. <https://doi.org/10.4085/1947-380X-2.2.42>
- Nuh, M. (2017). *Pendidikan Karakter untuk Kemandirian Bangsa menuju Kejayaan Indonesia 2045*.
- Oktaviani, D., Dewi, D. A., & Hidayah, N. (2022). Character Development in Today's Children: The Impact of Modern vs. Traditional Games. *Jurnal Kependidikan: Jurnal Hasil Penelitian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran*, 8(2), 417. <https://doi.org/10.33394/jk.v8i2.5063>
- Pološki Voki, N., & Aleksi, A. (2020). Are Active Teaching Methods Suitable for All Generation Y students?—Creativity as a Needed Ingredient and the Role of Learning Style. *Education Sciences*, 10(4), 87. <https://doi.org/10.3390/educsci10040087>
- Right, A. (2018). *Guru 5G: Kok Masih Mau Jadi Guru Biasa-Biasa?* Metagraf.
- Risan, R. (2022). Identifying the Characteristics of the Student: An Evaluation for English Teachers Pedagogical Competence. *Journal of English Language Teaching*, 11(2), 147–159. <https://doi.org/https://doi.org/10.24036/jelt.v11i2.116598>



- Rohmadi, M. (2012). *Menjadi Guru Profesional dan Berkarakter*. Yuma Pustaka.
- Sebastian, Y. (2016). *Generasi Langgas, Millennials Indonesia*. Gagas Media.
- Sembiring, S. B. (2022). Analisis Dinamika Sosio-Demografi sebagai Acuan untuk Mewujudkan Rencana Pemindahan Ibu Kota Negara yang Smart, Green, Beautiful dan Sustainable. *Bappenas Working Papers*, 5(1), 120–137. <https://doi.org/10.47266/bwp.v5i1.122>
- Shahmohammadi, N. (2015). Competent Teacher Characters from Students Point of View. *Procedia - Social and Behavioral Sciences*, 205, 242–246. <https://doi.org/10.1016/j.sbspro.2015.09.067>
- Shin, D. D., & Kim, S. (2019). Homo Curious: Curious or Interested? *Educational Psychology Review*, 31(4), 853–874. <https://doi.org/10.1007/s10648-019-09497-x>
- Skiba, D., & Barton, A. (2006). Adapting Your Teaching to Accommodate the Net Generation of Learners. *OJIN: The Online Journal of Issues in Nursing*, 11(2). <https://doi.org/10.3912/OJIN.Vol11No02Man04>
- Sri Handoyo, S., Iriani, T., & Septiandini, E. (2019). Study of the Analysis on the Characteristics of Learning Style of the Students of the Vocational Education of Building Construction Study Program, Faculty of Engineering, Jakarta State University. *KnE Social Sciences*, 3(12), 339. <https://doi.org/10.18502/kss.v3i12.4100>
- Stillman, D., & Stillman, J. (2018). *Generasi Z: Memahami Karakter Generasi Baru yang akan Mengubah Dunia Kerja*. Gramedia.
- Ujang Cepi Barlian, Siti Solekah, & puji rahayu. (2022). Implementasi Kurikulum Merdeka Dalam Meningkatkan Mutu Pendidikan. *JOEL: Journal of Educational and Language Research*, 1(12), 2105–2118. <https://bajangjournal.com/index.php/JOEL/article/view/3015>
- Worley, K. (2011). Educating College Students of the Net Generation. *Adult Learning*, 22(3), 31–39. <https://doi.org/10.1177/104515951102200305>
- Yates, A., Starkey, L., Egerton, B., & Flueggen, F. (2021). High school students' experience of online learning during Covid-19: the influence of technology and pedagogy. *Technology, Pedagogy and Education*, 30(1), 59–73. <https://doi.org/10.1080/1475939X.2020.1854337>