Research Article https://doi.org/10.12973/ijem.9.2.423



International Journal of Educational Methodology

Volume 9, Issue 2, 423 - 434.

ISSN: 2469-9632 https://www.ijem.com/

Gen Z Students Perception of Ideal Learning in Post-Pandemic: A Phenomenological Study From Indonesia

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Received: December 23, 2022 • Revised: March 25, 2023 • Accepted: April 9, 2023

Abstract: This study aims to investigate the perceptions of Generation Z students about ideal learning after the pandemic in Indonesia. This research uses a qualitative design with a phenomenological approach. There were 30 students from 6 different campuses in Serang City, Banten, Indonesia, who used a purposive sampling technique as research participants. Data collection was carried out using semi-structured interviews, which were then analyzed using thematic analysis techniques. The findings of this study state that there are four main themes regarding ideal post-pandemic learning, namely: (a) learning that is not monotonous, (b) equal portions of theory and practice, (c) ideal learning managed by an ideal lecturer, and (d) the need for the application of blended learning. This research contributes to the current literature on designing ideal learning on campus after the COVID-19 pandemic.

Keywords: Generation Z, ideal teaching, post-pandemic learning.

To cite this article: Helaluddin, Fitriyyah, D., Rante, S. V. N., Tulak, H., Ulfah, M., St., & Wijaya, H. (2023). Gen Z students perception of ideal learning in post-pandemic: A phenomenological study from Indonesia. International Journal of Educational Methodology, 9(2), 423-434. https://doi.org/10.12973/ijem.9.2.423

Introduction

The world of global education is facing tough challenges with various problems, called the world of VUCA. Of course, this cannot be separated from the fact that the world is experiencing shifts and changes, leading to volatility, uncertainty, complexity, and ambiguity (Akinoso, 2015). In other words, today's world has experienced rapid and chaotic changes, a lack of standards, and the fact that what is being done now is out of date (Nowacka & Rzemieniak, 2022). Living in a "VUCA world" makes students confront various contradictions about their gender, friendship, religious beliefs, eating patterns, and other activities (Kukreja, 2019).

On the other hand, VUCA World calls for innovative strategies and processes that can be used to address specific situations. Using the right system, the world of VUCA can be an opportunity for everyone to learn and develop agile and flexible strategies (Canzittu, 2022; Hadar et al., 2020; Salakhova et al., 2021). This is based on the fact that there is no predictability for every problem that may arise. It becomes necessary to plan for every trouble that may occur. From several kinds of literature, VUCA assesses and provides changes in general situations and events that are entirely unpredictable (LeBlanc, 2018; Pultoo & Oojorah, 2020; Rodionov et al., 2021; Vedhathiri, 2018).

One form of the VUCA world phenomenon is the arrival of the COVID-19 virus, which drastically changed the face of the world. The virus forced everyone to limit their interactions and get used to learning online (Daniel, 2021; Rauf et al., 2021; Wilson et al., 2021). These conditions, of course, make the world of education must change the learning system quickly and precisely. As a result, many countries have suspended face-to-face teaching, and traditional classes have been replaced with books and materials taken from schools (Azhari & Fajri, 2022; Huck & Zhang, 2021; Pokhrel & Chhetri, 2021). With the existence of COVID-19, various e-learning platforms have emerged and are busy for being overly used, various e-learning platform such as Google Classroom, Zoom, and etc., have emerged and are busy for being overly used. In fact, in some cases, national television shows or social media platforms are also used for education

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(Gonzalez et al., 2020).

The use of technology to replace face-to-face learning is certainly not an obstacle for generation Z. This generation has the largest population, reaching more than 2 billion people worldwide who are entering the world of work and campuses (Green & McCann, 2021). Other references state that generation Z is one of the first digital natives to be raised in technology that has global, social, and visual tendencies. They prefer and consume products through eshopping channels because it is more convenient and efficient. These habits are influenced by the fact that generation Z was born in the decade when the World Wide Web had four main characteristics, namely: (a) a focus on innovation, (b) an emphasis on convenience, (c) a desire for security, and (d) a preference for escapes that can affect their e-shopping behaviour emerge (Giray, 2022; Nguyen et al., 2022).

Generation Z, or centennials, are often characterized as lazy and dependent on technology (Miller & Mills, 2019; Mosca et al., 2019). Experts are still debating the first point until now, but the last point is very appropriate. There is no doubt that the centennial generation is very dependent on the technology used to obtain information, communicate with colleagues, exchange ideas, and share knowledge and insights (Housand, 2018). In other words, they portray themselves as trustworthy, wise, kind, open-minded and responsible individuals. In several studies, generation Z tends to be pragmatic, sceptical, open-minded, independent, multi-tasking, and iconoclastic (Giray, 2022). However, this generation is straightforward in expressing who they are, who they want to be, and how they want others to see and position them (Buzzetto-Hollywood & Alade, 2018).

In practice, these changes cause various problems in learning. Robinson et al. (2023) present evidence that many educators experience stress related to their personal and professional roles, concerns about students' academic achievement, and frustration with the administration and other institutional entities hampered due to COVID-19 safety concerns. This condition can lead to teacher shortages, a decline in teachers' mental health, and ultimately poorer student outcomes.

Equally important is the increasing use of online learning applications around the world. During a pandemic, this application was beneficial in the teaching and learning process between lecturers and students. Overall, there is an increasing trend that influences the use of online meeting applications in solving learning problems in the future (Mesterjon et al., 2022; Pratama et al., 2020). The problem lies in the ability and readiness of the teachers, who still need to improve themselves in using the application. In Indonesia, most teachers are not ready to implement online learning policies because they need to be more familiar with these digital products (Andarwulan et al., 2021).

Another thing that stands out in the learning system during the pandemic is inequality in education due to the digital divide. This has significantly impacted middle- and low-income countries and has even been experienced by several developed countries (Vijayan, 2021). Other studies state that the main factors of learning problems during the pandemic are a poor internet connection, decreased student learning motivation, and parents' difficulty creating a conducive learning environment (Aytac, 2021). Studies confirm a negative impact on society due to the lack of adaptability to this process.

Several previous studies reviewed the perspectives of Gen Z students on learning during the COVID-19 pandemic. Coman et al. (2020) explained that higher education institutions in Romania were not ready to implement an online learning system. Other studies have also found the same fact that students and teachers tend to perceive online learning as not more effective than face-to-face (Ntshwarang et al., 2021). Students perceive online learning as a tool to support regular learning and not a substitute for standard learning models (Garg, 2020; Irawaty et al., 2022). There is a reluctance among students to use online education mode because they feel less productive in developing their knowledge and skills (Ozfidan et al., 2021). A few researchers still focus on learning Generation Z in the post-pandemic period from a student perspective because students are one of the elements in higher education that must be involved in the design of ideal learning. Therefore, the formulation of the problem in this research is: What is the perspective of students as generation Z regarding ideal learning in the current post-pandemic era?

Literature Review

Gen Z

Generation Z has the same meaning as several other terms, namely next-gen, net gene, born-digital, tech gene, wifi gene, the sharing generation, digital natives, post gene, plurals, scenesters, and zeds. And the age that's "all technology all the time," (Turner, 2015). In general, generation Z is a generation that was born together with the internet era, which is developing very advanced with various offers for easy access to human life (Khan & Bansal, 2018). This generation is also characterized by multiple phenomena, such as the booming number of iTunes music application users, 1 billion Facebook users, 5.1 billion information seekers on Google, and 4 billion YouTube viewers (Schwieger & Ladwig, 2018).

Experts assess several positive characteristics of generation Z. This generation has access to information, global lifestyle references, and a social environment that influences their views on political and social issues (Twenge, 2017). Furthermore, this group is highly independent, easily connected to various communication networks, and values truth and authenticity (Francis & Hoefl, 2018). However, generation Z is also very proficient and close to digital products, so under certain conditions, they will feel very dependent on them.

In education, generation Z is described as a generation that is indifferent to education, especially at the higher education level. Compared to the previous generation, generation Z is less committed to considering a higher degree (Sparks & Honey, n.d.). They are aware of the rising cost of higher education and are less willing to spend money on something they believe will not lead them to a successful future (Nauman, 2021). In addition, Pousson and Myers (2018) claims that Generation Z prefers to learn independently at their own pace without being regulated by others.

Ideal Teaching

Ideal teaching refers to quality teaching, which means everything is excellent or perfect. Carter et al. (2021) define quality as an activity that meets, exceeds, and satisfies the needs and expectations of customers/students, recognizing that these needs will change from time to time. Despite the prevalence of this concept in education, the meaning of 'quality 'still needs to be clarified, and no definition can fully complement it (Jusoh & Mlibari, 2018). On the other hand, quality teaching has been carefully defined and understood to be context dependent and influenced by various exogenous factors. According to Crebbin (2004), the term debate that focuses on the context of quality teaching is how to present a variety of potential meanings, both in the form of definitions and practices that are not independent of the social, cultural, historical, and power contexts in which they have been formed.

For generation Z, the main characteristic of learning tends to be independent learning. From internet searches and ebooks to digital apps, YouTube, wikis, and virtual assistants, college students have devised their methods for finding answers (Mosca et al., 2019). For this reason, Mosca et al., (2019) suggested that educators should strengthen critical thinking skills and modify their instructional approaches to maximize student engagement. Chicca and Shellenbarger (2018) recommend that educators focus more on self-directed, individual, or project-based learning.

Learning in Pandemic and Post-Pandemic Periods

As the impact of COVID-19 spreads, higher education institutions worldwide have been encouraged to experiment with e-learning as traditional classroom-based learning is no longer possible (Demuyakor, 2020; Ratten, 2020). COVID-19 has resulted in significant disruptions in the education system, so face-to-face learning is no longer viable, which is still understood mainly due to the severity of its impact (Bryson & Andres, 2020; Crawford et al., 2020). Therefore, the learning system during the pandemic was directed to online learning by eliminating direct interaction.

Several affected stakeholders, such as the government, academic staff, students, and parents, are concerned that the shift from classroom-based to online learning will produce the desired results (Mseleku, 2020). This means that most people still question the quality of online learning. Even though it was anticipated that online learning would be more widespread, there were still opportunities for innovation in the higher education sector during the pandemic (Addimando et al., 2021).

Even though the pandemic has ended, several countries are still implementing online learning systems. This is done because many cases of COVID-19 still need to disappear entirely. However, online learning also still needs to overcome many obstacles. For developed countries, online learning by utilizing technology may be exemplary. Conversely, this condition creates new and complex problems for producing and developing countries. Owenvbuigie and Egbri (2021) states that the learning process using applications such as Moodle, online collaboration, and crowdsourcing is still deficient under the same conditions.

Methodology

Research Design

As previously described, the purpose of this study was to investigate the perceptions of Generation Z students about ideal learning after the COVID-19 pandemic. From this perception, researchers can collect important information related to the views of generation Z students in viewing ideal learning to be applied in the post-pandemic era as it is today. Qualitative research with a phenomenological design was used in this study. Phenomenology aims to understand the meaning attached to people's experiences with a focus on investigating the inner world, such as what a person sees, feels, and thinks (Creswell, 2009; Minichiello & Kottler, 2010; Van-Manen, 2007).

Research Site and Participants

There were 30 students from the Faculty of Islamic Economics and Business, State Islamic University of Sultan Maulana Hasanuddin Banten, Indonesia, were involved in this study. The determination of all participants was carried out using a purposive sampling technique. This participant determination technique uses several considerations to suit the theme and research objectives (Teddlie & Yu, 2007). Several references in selecting the participants of this study were: (a) final year students or currently preparing their final assignment, (b) having a minimum Grade Point Average (GPA) of 3.5, (c) actively participating in student or youth organizations, and (d) Have at least two social media accounts.

Data Collection

For data collection, the researcher used semi-structured interviews to explore the perceptions of gen Z students. This type of interview is flexible because it is not fixated on interview guidelines prepared by the researcher. Researchers can add questions during the interview to obtain further information or clarification (Balta et al., 2016; Kvale & Brinkman, 2009; Ruslin et al., 2022). The questions in this interview referred to two aspects, namely, the personal information of the participants and the perceptions of generation Z students about ideal learning in the post-pandemic era.

Data Analysis

After the data was collected using semi-structured interviews, the data were analyzed using thematic analysis techniques. In general, thematic analysis is a technique for analyzing qualitative data that requires searching the entire data set to identify, analyze, and report recurring patterns (Taylor et al., 2012). Many researchers use this analytical technique specifically for qualitative research with ethnographic and phenomenological designs (Aronson, 1995; Joffe, 2011). According to the presentation of Braun and Clarke (2006), there are several stages in this thematic analysis technique, namely: (a) recognizing data, (b) generalizing the code, (c) searching for themes, (d) reviewing themes, (e) defining and naming themes, and (f) make a report.

Trustworthiness

In qualitative studies, the important thing that researchers must consider is increasing the research's validity. In this study, researchers carried out member checking and peer review to improve the quality of research findings. *Member checking* is an activity that involves research participants being directly involved in reviewing the authenticity of conclusions. In other words, participants checked the research draft to see if authentic representations had been made that matched what they had said during the interview (Candela, 2019; Harper & Cole, 2012; Lincoln et al., 1985).

In addition to member checking, researchers also carry out peer review activities to increase the validity of research findings. Researchers conduct peer review activities by checking and examining the results of research findings carried out by other research team members (Ragone et al., 2011). In other words, the data that has been collected is submitted to other researchers to be re-examined by providing essential points as input (Hirschauer, 2010; Mendelsohn, 1977; Smith, 2006). This study's peer review process involved two lecturers outside the research team providing input, suggestions and criticisms. With this review from colleagues, the quality of qualitative research findings is expected to increase their validity.

Results

Based on the results of the interview analysis, four main themes represent students' perceptions of generation Z in viewing ideal learning in the post-COVID-19 era, namely: (a) learning that is not monotonous, (b) portions of theory and practice the same size, (c) ideal learning is managed by an ideal lecturer, and (d) the need for the application of blended learning.

Theme 1: Unobtrusive and Interesting Learning

The first theme in students' perceptions of ideal learning is learning that is not monotonous, fun, and not rigid. For them, ideal learning is relaxed but still severe learning in studying the material. With relaxed knowledge, generation Z students feel not forced and are willing to take part in knowing without coercion. That is, everyday situations can encourage generation Z student awareness to be active and involved in learning. The following is an excerpt of interviews from students who support this statement.

Ideal learning seems flexible, so it does not make students depressed. In a relaxed atmosphere, I find it easier to understand the material (Participant 7)

In my opinion, ideal learning is like having discussions or working on learning projects in a relaxed and fun way but still serious about learning the material (Participant 5)

A pleasant learning atmosphere can have a positive impact on students. Besides being able to improve learning outcomes, a good learning atmosphere is also able to generate motivation for students. With this increased motivation, students can focus on lecture material with a relatively long focus. That is, fun learning can be a strategy for paying attention to the attention span of Gen Z students which is known to be very short, no more than five minutes. Here are some interview excerpts that support this.

In my view, ideal learning is a learning process in a relaxed classroom and provides motivation other than learning motivation (Participant 17)

Studying in a pleasant situation gives me many benefits, especially in increasing motivation (Participant 10)

I am a person who needs help to focus while studying. Therefore, ideal learning is to help me stay focused on the course material (Participant 22).

Theme 2: Ideal Teacher

Another interesting finding about student perceptions of generation Z in viewing ideal learning is the presence of ideal lecturers in class. According to them, ideal learning also grows and emerges from the nature of a perfect lecturer. Besides conveying material well, the ideal lecturer also gives a good impression and image. The ideal lecturer is usually always friendly, friendly, full of humour, smiles, and guides his students. Here are some examples of interview excerpts that state this.

Ideal lecturers and ideal learning are two interrelated things. Only ideal lecturers can create ideal learning in class (Participant 1)

The ideal learning is always related to the ideal lecturer. Usually, the ideal lecturer that students like is friendly and humorous (Participant 11)

Based on my experience, ideal learning is also determined by ideal lecturers. For me, the ideal lecturer is not only able to deliver lecture material but also guide students (Participant 16)

The ideal lecturer and ideal learning are two interrelated things. Only ideal lecturers can create ideal learning in class (Participant 3)

The ideal lecturer usually has the skills to convey lecture material effectively and efficiently. Considering that Generation Z likes technology products, the ideal lecturer usually can use technology in learning. The traditional learning system is no longer of interest to students. Therefore, ideal learning can be formed if the ideal lecturer can apply various technological products during the learning process. The following are two excerpts from student interviews that support this statement.

The best learning is using social media such as Instagram, Youtube, Facebook, and others. Throughout my experience, only some lecturers apply it. For me, they are the ideal lecturers (Participant 19).

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Theme 3: Equal Portions of Theory and Practice

Third, other findings state that ideal learning always pays attention to a balanced portion between the presentation of theory and practice. Based on the expectations of generation Z students, ideal learning is defined as a learning process that provides equal portions between theory and practice. Every campus must implement this system because students realize that both have an essential role, and they must master it. Below are some excerpts from interviews related to this point.

Ideal learning, in my opinion, is the provision of materials and practices that are the same size (Participant 18).

In my opinion, ideal learning is not a lot of theory (Participant 9).

It is better for learning on campus to reduce the theory portion and increase the practice portion. I will understand lecture material more quickly if it is practised in class (Participant 3)

Theme 4: Application of Blended Learning

Finally, generation Z 's perception of the nature of ideal learning is the application of hybrid learning or blended learning. According to their perspective, ideal learning must be adapted to conditions, changing times, and technological advances. Generation Z's combination of learning using technology and face-to-face systems is just as important. In the current global era, they still consider the face-to-face learning system important because if they only rely on online learning, it will raise problems that are not simple. This is reasonable because many disturbances can arise when relying only on the online system, such as unstable signals, power outages, etc. The following are excerpts from interviews that state these findings.

In my opinion, a combination of online and offline is the ideal and best learning (Participant 20)

Ideal learning should use online learning, which is occasionally also carried out face-to-face in class (Participant 14)

The ideal learning is still implementing face-to-face meetings. Furthermore, eliminating offline classes in today's digital era does not seem right. I feel face-to-face is still important (Participant 19)

Another thing that looks for themes in the application of blended learning systems is the effectiveness of using technological tools and learning applications. For generation Z students, learning in blended mode combines more than

just online and face-to-face learning. In face-to-face learning, students also expect to use various learning resources related to technology products. This generation likes face-to-face learning that uses a lot of social media, applications, and other technology products as learning resources. The following are two excerpts from the interview that support the explanation above.

Learning is ideal for me now if lecturers use Youtube, Instagram, and Facebook in learning. When learning to write paragraphs, the lecturer asked us to write and post them on Instagram, accompanied by a photo or video. For me, this is very fun (Participant 27).

Ideal learning should use an application that can help me understand lecture material (Participant 2).

Discussion

This research seeks to explore students' perspectives as generation Z in viewing ideal learning in the post-pandemic period. Based on the results of the interview analysis, generation Z students consider that ideal teaching includes several main themes. Some of the main themes are: (a) ideal learning is learning that is interesting & not boring, (b) related to ideal lecturers, (c) equal portions between practice & theory, and (d) application of blended learning.

Learning that is interesting and not boring is closely related to learning that is liked by generation Z. This condition is commonly understood because, in essence, students' learning styles differ from one another. This is in line with the study put forward by Cameron and Pagnattaro (2017), which claims that learning styles consist of types, namely (a) visual learning styles, (b) auditory, and (c) kinesthetic. Two other studies state that generation Z is very interested in kinesthetic learning styles, so applied learning must actively involve students (Kharb et al., 2013; Payaprom & Payaprom, 2020). Kinesthetic learners will learn superlatively by doing, experiencing, moving, and handling. They prefer hands-on activities (Jamie & Karen, 2014). It has been reported that Gen Z also tends toward active learning (Thinnukool & Kongchouy, 2017) and learning by doing (Barnes & Noble College, 2018; Puiu, 2017). In addition, students from generation Z tend to learn practical knowledge to apply for jobs or businesses in the future (Nicholas, 2008). This will link more preferences towards kinesthetic learning among university students.

Other findings indicate that the ideal learning for generation Z is always identical to the ideal teacher. For students, the ideal teacher can create a learning environment that can motivate them to learn. Qualification as an ideal teacher is a characteristic measured based on specific standards made locally, both schools, campuses, and nationally (Sezer, 2018). Besides requiring academic qualifications, a teacher must also have other aspects to fulfil the requirements of an ideal lecturer (Asad & Bin Hassan, 2013).

Previous studies have determined various criteria for ideal teachers ranging from the characteristics of the teachers to their attitude towards achievement and motivating their students (Omar et al., 2014). On the other hand, there are several attributes inherent in an ideal lecturer, such as (a) professionalism, (b) personal, (c) social, (d) leadership attributes, and (e) classroom interaction attributes (Okoro & Chukwudi, 2011). Characteristics of an ideal teacher that are not far from the previous description are (a) professional role or responsibility, (b) professional values, (c) professional characteristics, (d) ethical principles, and (e) social responsibility (Tunca et al., 2015). Other literature also describes several criteria for the ideal teacher are similar. Substance knowledge, pedagogical expertise, work-life skills, and developmental abilities are mandatory identities that must be possessed by ideal teachers (Määttä et al., 2015).

In the view of generation Z students, the ideal teaching attribute is related to the teacher's ability to interact with and serve students. One of the ideal teaching characteristics that is close to student interactions is personal character. This character is divided into several sub-characters, namely being neat, social, enthusiastic, humorous, well-disciplined, smiling, sincere, not being selfish, doing self-evaluation, being unique, and being courageous (Tunca et al., 2015). As reported by several studies, students from digital natives and generation Z like teachers who act as friends, do not keep a distance and have good humour skills. In other references, the attributes of an ideal teacher are separated into two main parts, namely personal qualities and professional competencies related to teaching and areas of expertise. The sub-attribute that digital natives and generation Z students like is teaching using modern methods and avoiding traditional learning methods (Ates & Kadioglu, 2017). This sub-attribute is found in professional competencies related to teaching and areas of expertise. Students in Generation Z like learning models with exciting presentations, presenting subject matter through audio and video, and working in teams. This is related to student expectations of ideal learning described previously.

Other studies have found empirical evidence that there are two other ideal teaching attributes: the ability to master a particular field and the role of a reformer (Määttä et al., 2015). An ideal teacher must continuously update his abilities along with the times. Thus, the absolute thing that lecturers and teachers must upgrade is their knowledge and skills regarding technology and its products which have become part of the learning process. As reformers, teachers must continue to make changes by creating various innovations in learning so that students are motivated to develop. Still related to the ideal teacher's attributes, other studies claim that the ideal teacher is related to the ability to manage classes and interact with students. Student-centeredness is an attribute that must be possessed by ideal lecturers such as the ability to attract students' attention, handle student problems, and provide individual assistance (Kozikoglu,

2017). In addition, innovation is also one of the attributes of an ideal lecturer because a teacher is always open to technological developments and the progress of the times and can continuously improve his quality.

Finally, the ideal teacher/lecturer must possess the ability to master technology (Kildan et al., 2013). Lecturers, mainly from the digital immigrant generation, must strive to improve their skills in using technological devices. It is intended that the learning process can be understood by students who like technological devices in the learning process. In addition, given that their attention span (generation Z) is only eight seconds, teachers/lecturers must be competent in managing learning. Generation Z is a collection of students taught in class by Baby Boomers (and other generations) with very different life experiences (Worley, 2011).

Another perspective of the Z generation regarding ideal learning is balanced learning providing a portion of theory and practice. In other words, this generation does not like things that are not practical. This has been reviewed on the negative characteristics in the previous section. In addition, generation Z students tend to learn practical knowledge to apply for jobs or businesses in the future (Nicholas, 2008). They like learning directly from practice in the real world because giving too much theory decreases learning motivation.

Finally, generation Z students consider that ideal learning is learning that applies blended learning. Interestingly, even though Generation Z is identical with technology, they still need to thoroughly agree with online systems' use in learning. They still believe the face-to-face system benefits learning activities, especially in-class interactions, which they want.

The findings of this study are in line with previous findings, which found empirical facts that blended learning can result in increased student success and satisfaction as well as an increased sense of student community compared to face-to-face learning only (Dziuban et al., 2018). Other studies have explored the relationship between online and faceto-face teaching. The results show that the quality of learning is closely related to their perception of their learning experience. Furthermore, the study suggests that blended learning that integrates e-learning and face-to-face instruction in class is helpful in increasing student knowledge in general (Zhang & Zhu, 2017).

In addition, online learning activities must be carried out to reduce boredom and distraction caused by other factors on campus. Becker et al. (2017) identified blended learning design as one of the short-term forces driving the use of technology in higher education in the next 1 to 2 years. Furthermore, the role of hybrid learning for generation Z was also stated by Dziuban et al. (2018), who claim that blended learning is a form of foreshadowing of substantial change in higher education, schools, and industrial training. This is based on the flexibility factor of blended learning, which allows us to maximize many positive educational functions.

Conclusion

The presence of generation Z students as campus residents currently needs serious attention from stakeholders, teachers, staff, and education observers. This study aims to obtain an overall picture of the expectations of generation Z students in viewing ideal learning in the era of the industrial revolution 4.0. The study results show that generation Z students expect several points they define as ideal learning in the post-pandemic era. Four main themes fall under ideal learning for generation Z students, namely: (a) a fun learning environment, (b) applying equality between theory and practice, (c) ideal learning identical to ideal lecturers, and (d) the need to apply blended learning. With this research, it is hoped that it can become a reference source in designing ideal learning in the post-pandemic era for lecturers. In other words, these findings have filled a gap in the current literature regarding the need for studies involving students in examining ideal learning in the post-pandemic era. This student perspective can be the basis for lecturers, practitioners, and institutions to implement excellent learning policies in tertiary institutions.

Recommendations

For further research, the authors suggest that researchers explore more deeply about learning for generations Z and Alpha to find common ground between the needs of students and lecturers. With this kind of research, learning in tertiary institutions that prioritize aspects of learner autonomy can be maximally applied. Furthermore, researchers can also direct their focus on Research & Development (R & D) designs. This research needs to be carried out in the future to produce learning products in the form of models and learning tools. For higher education institutions and the government, researchers recommend that the process of determining educational policy should involve students as an essential element of education who also need to "hear" what their expectations are related to ideal learning for themselves. In addition, this study also recommends that lecturers and practitioners recognize the characteristics of students (gen Z). Recognizing the character and learning style allows the teacher to choose the ideal learning method easily. Selecting appropriate and ideal learning methods will encourage increased motivation and student learning outcomes.

Limitations

From this description, the researcher concludes that there are still some important notes and limitations in this study. Research participants from one campus were considered unable to fully represent the perceptions of generation Z students as a whole. However, in essence, qualitative research is not directed at making generalizations. This phenomenological study wants to reveal the veil of the phenomenon of human life comprehensively and profoundly. Based on these limitations, the researcher recommends that future studies raise similar themes by involving participants from other campuses. In addition, further research can involve lecturers as a form of feedback from the findings of this study. With the perceptions of students and lecturers, it is possible for lecturers and higher education institutions to design ideal learning designs in the future.

Acknowledgements

The authors would like to thank all who have helped implement this research, especially the Chancellor and Dean of the Faculty of Economics & Islamic Business, Universitas Islam Negeri (UIN) Sultan Maulana Hasanuddin Banten, Indonesia and other parties involved.

Authorship Contribution Statement

Helaluddin: Conceptualization and data acquisition, and drafting manuscript. Rante, Fitriyyah, and Tulak: Data analysis and translate the manuscript. Ulfah and Wijaya: Editing/reviewing, supervision, and critical revision manuscript.

References

- Addimando, L., Leder, D., & Zudini, V. (2021). Teaching and learning in the Covid-19 era: The experience of an Italian primary school class. *TOJET the Turkish Online Journal of Educational Technology*, 20(1), 60–67. http://www.tojet.net/articles/v20i1/2018.pdf
- Akinoso, S. O. (2015). Teaching mathematics in a volatile, uncertain, complex and ambiguous (VUCA) world: The use of concrete-representational-abstract instructional strategy. *Journal of the International Society for Teacher Education*, 19(1), 97–107.
- Andarwulan, T., Al Fajri, T. A., & Damayanti, G. (2021). Elementary teachers' readiness toward the online learning policy in the new normal era during Covid-19. *International Journal of Instruction*, 14(3), 771–786. https://doi.org/10.29333/iji.2021.14345a
- Aronson, J. (1995). A pragmatic view of thematic analysis. *Qualitative Report*, 2(1), 1–3. https://doi.org/10.46743/2160-3715/1995.2069
- Asad, M. M., & Bin Hassan, R. (2013). The characteristics of an ideal technical teacher in this modern era. *International Journal of Social Science and Humanities Research*, 1(1), 1–6. http://bit.ly/420P0u3
- Ates, H. K., & Kadioglu, S. (2017). Identifying the qualities of an ideal teacher in line with the opinions of teacher candidates. *European Journal of Educational Research*, 7(1), 103–111. https://doi.org/10.12973/eu-jer.7.1.103
- Aytac, T. (2021). The problem faced by teachers in Turkey during the covid-19 pandemic and their opinions. *International Journal of Progressive Education, 17*(1), 404-420. https://doi.org/10.29329/ijpe.2021.329.26
- Azhari, B., & Fajri, I. (2022). Distance learning during the covid-19 pandemic: School closure in Indonesia. *International Journal of Mathematical Education in Science and Technology*, 53(7), 1934-1954. https://doi.org/10.1080/0020739X.2021.1875072
- Balta, N., Mason, A. J., & Singh, C. (2016). Surveying Turkish high school and university students' attitudes and approaches to physics problem solving. *Physical Review Physics Education Research*, 12(1), Article 010129. https://doi.org/ggn3ff
- Barnes & Noble College. (2018). *Getting to know gen Z: Exploring middle and high schoolers' expectations for higher education.* Barnes & Noble College.
- Becker, A. S., Cummins, M., Davis, A., Freeman, A., Giesinger, H. C., & Ananthanarayanan, V. (2017). *NMC horizon report:* 2017 higher education. The New Media Consortium.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp0630a
- Bryson, J. R., & Andres, L. (2020). Covid-19 and rapid adoption and improvisation of online teaching: Curating resources for extensive versus intensive online learning experiences. *Journal of Geography in Higher Education*, 44(4), 608–623. https://doi.org/10.1080/03098265.2020.1807478
- Buzzetto-Hollywood, N., & Alade, A. (2018). An examination of gen Z learners attending a minority university. *Interdisciplinary Journal of e-Skills and Lifelong Learning*, 14, 41–53. https://doi.org/10.28945/3969
- Cameron, E. A., & Pagnattaro, M. A. (2017). Beyond millennials: Engaging generation Z in business law classess. *Journal of Legal Studies Education*, 34(2), 317–324. https://doi.org/10.1111/jlse.12064

- Candela, A. G. (2019). Exploring the function of member checking. The Qualitative Report, 24(3), 619-628. https://doi.org/10.46743/2160-3715/2019.3726
- Canzittu, D. (2022). A framework to think of school and career guidance in a VUCA world. British Journal of Guidance and Counselling, 50(2), 248-259. https://doi.org/10.1080/03069885.2020.1825619
- Carter, E., Onwuegbuzie, A., Singal, N., & van der Velde, L. (2021). Perceptions of teaching quality in Rwandan secondary schools: A contextual analysis. International Journal of Educational Research, 109, Article 101843. https://doi.org/10.1016/j.ijer.2021.101843
- Chicca, J., & Shellenbarger, T. (2018). Connecting with generation Z: Approaches in nursing education. Teaching and Learning in Nursing, 13(3), 180–184. https://doi.org/10.1016/j.teln.2018.03.008
- Coman, C., Tîru, L. G., Mesesan-Schmitz, L., Stanciu, C., & Bularca, M. C. (2020). Online teaching and learning in higher education during the coronavirus pandemic: Students' perspective. Sustainability, 12(24), Article 10367. https://doi.org/10.3390/su122410367
- Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., Magni, P. A., & Lam, S. (2020). Covid-19: 20 countries' higher education intra-period digital pedagogy rensponses. Journal of Applied Learning & Teaching, 3(1), 9-28. https://doi.org/10.37074/jalt.2020.3.1.7
- Crebbin, W. (2004). Quality teaching and learning: Challenging orthodoxies. Peter Lang.
- Creswell, J. (2009). Research design: Qualitative, quantitative, and mix methods approaches. SAGE.
- Daniel, S. J. (2021). After covid-19: Can quality teaching be sustained? Change: The Magazine of Higher Learning, 53(2), 6-10. https://doi.org/10.1080/00091383.2021.1883970
- Demuyakor, J. (2020). Coronavirus (COVID-19) and online learning in higher institution education: A survey of the perceptions of Ghanaian international students in China. Online Journal of Communication and Media Technologies, 10(3), Article e202018. https://doi.org/10.29333/ojcmt/8286
- Dziuban, C., Graham, C. R., Moskal, P. D., Norbeg, A., & Sicilia, N. (2018). Blended learning: The new normal and emerging technologies. International Journal of Educational Technology in Higher Education, 15, Article 3. https://doi.org/10.1186/s41239-017-0087-5
- Francis, T., & Hoefl, F. (2018, November 12). 'True Gen': Generation Z and its implications for companies McKinsey. https://bit.ly/3LfDeB2
- Garg, A. (2020). Online education: A learner's perspective during COVID-19. Asia-Pasific Journal of Management Research and Innovation, 16(4), 279-286. https://doi.org/10.1177/2319510X211013594
- Giray, L. (2022). Meet the centennials: Understanding the generation Z students. *International Journal of Sociologies and* Anthropologies Sciences Reviews, 2(4), 9-18. https://doi.org/10.14456/jsasr.2022.26 [In Thai]
- Gonzalez, T., De la Rubia, M. A., Hincz, K. P., Comas-Lopez, M., Subirats, L., Fort, S., & Sacha, G. M. (2020). Influence of covid-19 confinement on students' performance in higher education. PLoS ONE, 15(10), Article e0239490. https://doi.org/10.1371/journal.pone.0239490
- Green, D. D., & McCann, J. (2021). The coronavirus effect: How to engage generation Z for greater student outcomes. Manaaement Article 9900041. and **Economics** Research Iournal. 7(1),https://doi.org/10.18639/MERJ.2021.9900041
- Hadar, L. L., Ergas, O., Alpert, B., & Ariav, T. (2020). Rethinking teacher education in a VUCA world: Student teachers' social-emotional competencies during the Covid-19 crisis. European Journal of Teacher Education, 43(4), 573–586. https://doi.org/10.1080/02619768.2020.1807513
- Harper, M., & Cole, P. (2012). Member checking: Can benefits be gained similar to group therapy? The Qualitative Report, 17(2), 510-517. https://doi.org/10.46743/2160-3715/2012.2139
- Hirschauer, S. (2010). Editorial judgements: A praxeology of "voting" in peer review. Social Studies of Science, 40(1), 71-103. https://doi.org/10.1177/0306312709335405
- Housand, B. (2018). Fighting fake news! Teaching critical thinking and media literacy in a digital age. Pufrock Press.
- Huck, C., & Zhang, J. (2021). Effects of the Covid-19 pandemic on K-12 education: A systematic literature review. New Waves-Educational Research and Development Journal, 24(1), 53-84.
- Irawaty, I., Momo, A. H., Sulfa, S., Salimin, S., Nerlin, N., & Mustar, S. Y. (2022). Students' perspective on online learning during the covid-19 pandemic. Journal of Education and Learning (EduLearn), 16(3), 375-383. https://doi.org/10.11591/edulearn.v16i3.20436

- Jamie, P., & Karen, P. (2014). Different keystrokes for different folks: Addressing learning styles in online education. *Information Systems Education Journal*, 12(2), 29–37. https://bit.ly/3LjEdjl
- Joffe, H. (2011). Thematic analysis. In D. Harper & A. R. Thompson (Eds.), *Qualitative methods in mental health and psychotherapy: A guide for students and practitioners* (pp. 209–224). John Willey & Sons. https://doi.org/10.1002/9781119973249.ch15
- Jusoh, R., & Mlibari, N. A. R. M. (2018). Predictors of quality teaching in Makkah primary schools. *International Journal of Academic Research in Progressive Education and Development*, 7(4), 30–50. https://doi.org/10.6007/IJARPED/v7-i4/4799
- Khan, I. A., & Bansal, V. (2018). Effect of using PC tablets on perceived learning outcomes of generation Z trainees. *International Journal of Learning and Development*, 8(1), 21–36. https://doi.org/10.5296/ijld.v8i1.12309
- Kharb, D., Samantha, P. P., Jindal, M., & Singh, V. (2013). The learning styles and the prefered teaching-learning strategies of first year medical students. *Journal of Clinical and Diagnostic Research*, 7(6), 1089–1092. https://doi.org/10.7860/JCDR/2013/5809.3090
- Kildan, A. O., Ibret, B. U., Pektas, M., Aydinozu, D., Incikabi, L., & Recepoğlu, E. (2013). Evaluating views of teacher trainees on teacher training process in Turkey. *Australian Journal of Teacher Education*, 38(2), 51–68. https://doi.org/10.14221/ajte.2013v38n2.10
- Kozikoglu, I. (2017). Prospective teachers' cognitive constructs concerning ideal teacher qualifications: A phenomenological analysis based on repertory grid technique. *International Journal of Instruction*, *10*(3), 63–78. https://doi.org/10.12973/iji.2017.1035a
- Kukreja, J. (2019). Holacracy: The next generation leadership in a VUCA world. *International Journal of Trend in Scientific Research and Development*, *3*(6), 37–47. https://www.ijtsrd.com/papers/ijtsrd28029.pdf
- Kvale, S., & Brinkman, S. (2009). Interviews: Learning the craft of qualitative research interviewing. SAGE.
- LeBlanc, P. J. (2018). Higher education in a VUCA world. *Change: The Magazine of Higher Learning*, 50(3-4), 23-26. https://doi.org/10.1080/00091383.2018.1507370
- Lincoln, S. Y., Guba, E. G., & Pilotta, J. J. (1985). Naturalistic inquiry: Beverly Hills, CA: Sage Publications, 1985, 416 pp., \$25.00 (Cloth). *International Journal of Intercultural Relations*, 9(4), 438-439. https://doi.org/10.1016/0147-1767(85)90062-8
- Määttä, K., Koski-heikkinen, A., & Uusiautti, S. (2015). Ideal teacherhood in vocational education. *Journal of Education, Society & Behavioural Science*, *5*(3), 276–288. https://doi.org/10.9734/BJESBS/2015/13901
- Mendelsohn, E. (1977). Introduction. In P. Weingert, R. Whitley, & E. Mendelsohn (Eds.), *The social production of scientific knowledge*. Reidel Publishing Company. https://doi.org/10.1007/978-94-010-1186-0
- Mesterjon, M., Suwarni, S., Selviani, D., & Monang, S. (2022). Analysis of learning system in higher collection through a technology 4.0 approach in the era of covid-19 pandemic. *Journal of Innovation in Educational and Cultural Research*, *3*(3), 355–360. https://doi.org/10.46843/jiecr.v3i3.110
- Miller, A. C., & Mills, B. (2019). 'If they don't care, i don't care': Millennial and generation Z students and the impact of faculty caring. *Journal of the Scholarship of Teaching and Learning*, 19(4), 78–89. https://doi.org/10.14434/josotl.v19i4.24167
- Minichiello, V., & Kottler, J. A. (2010). The personal nature of qualitative research. In V. Minichiello & J A. Kottler (Eds.), *Qualitative journeys: Student and mentor experiences with research* (pp. 1–10). Sage Publication. https://doi.org/10.4135/9781452272078.n1
- Mosca, J. B., Curtis, K. P., & Savorth, P. G. (2019). New approaches to learning for generation Z. *The Journal of Business Diversity*, 19(3), 66–74. https://doi.org/10.33423/jbd.v19i3.2214
- Mseleku, Z. (2020). A literature review of e-learning and e-teaching in the era of covid-19 pandemic. *International Journal of Innovative Science and Research Technology*, *5*(10), 588–597. https://bit.ly/4223xkT
- Nauman, M. C. (2021). Attracting generation Z students to higher education institutions. [Doctoral dissertation, Liberty University]. Liberty University Scholars Crossing. https://digitalcommons.liberty.edu/doctoral/2900/
- Nguyen, D. T. N., Hoang, S. D., Chovancová, M., & Tran, K. H. (2022). The Influence of the generation Z's perception and psychological ownership on repurchase intention of e-shopping: Evidence from Vietnam. *Journal of Eastern European and Central Asian Research*, 9(2), 240–259. https://doi.org/10.15549/jeecar.v9i2.792
- Nicholas, A. J. (2008). Preferred learning methods of the millennial generation. *The International Journal of Learning Annual Review*, 15(6), 27-34. https://doi.org/gjtcg5

- Nowacka, A., & Rzemieniak, M. (2022). The impact of the vuca environment on the digital competences of managers in the power industry. *Energies*, 15(1), Article 185. https://doi.org/10.3390/en15010185
- Ntshwarang, P. N., Malinga, T., & Losike-Sedime, N. (2021). E-learning tools at The University of Botswana: Relevance under Higher Education Future. 142-154. covid-19 crisis. for the 8(1), https://doi.org/10.1177/2347631120986281
- Okoro, C. O., & Chukwudi, E. K. (2011). The ideal teacher and the motivated student in a changing environment. Journal of Educational and Social Research, 1(3), 107-112. http://bit.ly/3ITv28F
- Omar, N. A., Matarsat, S. R., Azmin, N. H., Wei, V. C. A., Nasir, M. M. I. M., Sahari, U. K. S., Shashrill, M., & Mundia, L. (2014). The ideal psychology teacher: Qualitative analysis of views from Brunei GCE A-Level students and trainee psychology teachers. Asian Social Science, 10(12), 184-194. https://doi.org/10.5539/ass.v10n12p184
- Owenvbuigie, R. O., & Egbri, J. N. (2021). Use of modern technology for teaching by business educators during COVID-19 era. British Journal of Education, 9(3), 69-80. https://doi.org/10.2139/ssrn.3814156
- Ozfidan, B., Fayez, O., & Ismail, H. (2021). Student perspectives of online teaching and learning during the COVID-19 pandemic. Online Learning, 25(4), 461-485. https://doi.org/10.24059/olj.v25i4.2523
- Payaprom, S., & Payaprom, Y. (2020). Identifying learning styles of language learners: A useful step in moving towards the learner-centered approach. Journal of Language and Linguistic Studies, 16(1), https://doi.org/10.17263/jlls.712646
- Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. Higher Education for the Future, 8(1), 133-141. https://doi.org/10.1177/2347631120983481
- Pousson, J. M., & Myers, K. A. (2018). Ignatian pedagogy as a frame for universal design in college: Meeting learning needs of generation Z. Education Sciences, 8(4), Article 193. https://doi.org/10.3390/educsci8040193
- Pratama, H., Azman, M. N. A., Kassymova, G. K., & Duisenbayeva, S. S. (2020). The trend in using online meeting applications for learning during the period of pandemic COVID-19: A literature review. *Journal of Innovation in* Educational and Cultural Research, 1(2), 58-68. https://doi.org/10.46843/jiecr.v1i2.15
- Puiu, S. (2017). Generation Z-an educational and managerial perspectives. Revista Tinerilor Economisti, 14(29), 62-72. https://bit.lv/3HieA1a
- Pultoo, A., & Oojorah, A. (2020). Designing remote education in a VUCA world. *International Journal of Computers and* Technology, 20, 45-52. https://doi.org/10.24297/ijct.v20i.8713
- Ragone, A., Mirylenka, K., Casati, F., & Marchese, M. (2011). A quantitative analysis of peer review. In E. Noyons, P. Ngulube & J. Leta (Eds.), Proceedings of ISSI 2011 - 13th International Society of Scientometrics and Informetrics Conference. (pp. 724-736). International Society for Scientometrics and Informetrics (ISSI). https://bit.lv/40P6jsw
- Ratten, V. (2020). Coronavirus (Covid-19) and the entrepreneurship education community. *Journal of Enterprising* Communities: People and Places in the Global Economy, 14(5), 753-764. https://doi.org/10.1108/IEC-06-2020-0121
- Rauf, R., Wijaya, H., Tari, E., & Mughal, M. (2021). Entrepreneurship education based on environmental insight: Opportunities and challenges in the new normal era. Cogent Arts & Humanities, 8(1), Article 1945756. https://doi.org/10.1080/23311983.2021.1945756
- Robinson, L. E., Valido, A., Drescher, A., Woolweaver, A. B., Espelage, D. L., LoMurray, S., Long, A. C. J., Wright, A. A., & Dailey, M. M. (2023). Teachers, stress, and the covid-19 pandemic: A qualitative analysis. School Mental Health, 15, 78-89. https://doi.org/10.1007/s12310-022-09533-2
- Rodionov, M. A., Tsarapkina, J. M., Kulagina, J. A., Morozova, I. M., & Tkacheva, N. A. (2021). Formation of students' competitiveness in the vuca world. Revista de Tecnologia de Infomacion y Comunication En Educacion, 15(3), 171-181. https://doi.org/10.46502/issn.1856-7576/2021.15.03.14
- Ruslin, R., Mashuri, S., Sarib, M., Rasak, A., & Alhabsyi, F. (2022). Semi-structured interview: A methodological reflection on the development of a qualitative research instrument in educational studies. IOSR Journal of Research & Method in Education, 12(1), 22-29. https://bit.ly/4455Ntk
- Salakhova, V. B., Masalimova, A. R., Belyakova, N. V., Morozova, N. S., Osipova, N. V., & Prokopyev, A. I. (2021). Competitive teacher for higher education: Risk-based models of its development. Eurasia Journal of Mathematics, Science and Technology Education, 17(10), Article em2021. https://doi.org/10.29333/ejmste/11187
- Schwieger, D., & Ladwig, C. (2018). Reaching and retaining the next generation: Adapting to the expectations of gen Z in the classroom. Information Systems Education Journal, 16(3), 45-54. https://bit.ly/3AEvsvG

- Sezer, Ş. (2018). Prospective teachers' cognitive constructs related to ideal lecturer qualifications: A case study based on repertory grid technique. *Mediterranean Journal of Educational Research/ Akdeniz Egitim Arastirmalari Dergisi*, 12(25), 255–273. https://doi.org/10.29329/mjer.2018.153.14
- Smith, R. (2006). Peer review: A flawed process at the heart of science and journals. *Journal of The Royal Society of Medicine*, 99(4), 178–182. https://doi.org/10.1177/014107680609900414
- Sparks & Honey. (n.d.). Gen Z 2025: The final generation. https://bit.ly/40PYdQH
- Taylor, J., Sims, J., & Haires, T. P. (2012). The influence of protection, palliation and costs on mobility optimization of residents in nursing homes: A thematic analysis of discourse. *International Journal of Nursing Studies*, 49(11), 1364–1374. https://doi.org/10.1016/j.ijnurstu.2012.06.008
- Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. *Journal of Mixed Methods Research*, 1(1), 77–100. https://doi.org/10.1177/1558689806292430
- Thinnukool, O., & Kongchouy, N. (2017). Is facebook a suitable tool in modern world technology for active learning in as regards 21st century learning? *International Journal of Emerging Technologies in Learning*, 12(10), 173–194. https://doi.org/10.3991/ijet.v12i10.6976
- Tunca, N., Şahin, S. A., Oğuz, A., & Bahar Güner, H. O. (2015). Qualities of ideal teacher educators. *Turkish Online Journal of Qualitative Inquiry*, 6(2), 122–148. https://bit.ly/40Q36ZZ
- Turner, A. (2015). Generation Z: Technology and social interest. *The Journal of Individual Psychology*, 71(2), 103–112. https://doi.org/10.1353/jip.2015.0021
- Twenge, J. M. (2017). *Igen: Why today's super-connected kids are growing up less rebellious, more tolerants, less happy-and completely unprepared for adulthood (and what this mean for the rest of us)*. Atria Books.
- Van-Manen, M. (2007). Phenomenology of practice. *Phenomenology & Practice*, 1(1), 11–30. https://doi.org/10.29173/pandpr19803
- Vedhathiri, T. (2018). Institutional transformation and development in the engineering education to meet the volatility, uncertainty, complexity and ambiguity (VUCA). *Journal of Engineering Education Transformations*, 31(Special Issue). http://bit.ly/3ze5EWt
- Vijayan, R. (2021). Teaching and learning during the covid-19 pandemic: A topic modeling study. *Education Sciences,* 11(7), Article 347. https://doi.org/10.3390/educsci11070347
- Wilson, J. M., Lee, J., & Shook, N. J. (2021). Covid-19 worries and mental health: The moderating effect of age. *Aging and Mental Health*, 25(7), 1289–1296. https://doi.org/10.1080/13607863.2020.1856778
- Worley, K. (2011). Educating college students of the net generation. *Adult Learning*, 22(3), 31–39. https://doi.org/10.1177/104515951102200305
- Zhang, W., & Zhu, C. (2017). Review on blended learning: Identifying the key themes and categories. *International Journal of Information and Education Technology*, 7(9), 673–678. https://doi.org/10.18178/ijiet.2017.7.9.952