

Research Paper

Experiences and Preferences of Indonesian Students for Online Learning

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Abstract: Since the COVID-19 pandemic, online learning has become a critical alternative method in education. This way of learning can reach a larger community, unrestricted by time and space. However, students and lecturers have their own experiences and preferences for online learning. In this regard, this research aims to explore the experiences and preferences of students of the Z generation and lecturers of the Y, X, and Baby Boomer generations for online learning using Tapscott's theory of internet generation norms. Eight norms were examined, namely freedom, customisation, scrutiny, integrity, collaboration, entertainment, speed, and innovation. The research was conducted quantitatively by distributing online questionnaires to 404 students in the field of Communication Science at two private campuses in Indonesia's Jakarta and Malang city, using purposive sampling. The results show that the average gap between the preferences and learning experiences of Gen Z students and Baby Boomer lecturers was -0.35 , Gen X lecturers, 0.03 and Gen Y lecturers, -0.07 . A negative value indicates that the experience is lower than expectations or preferences, and a positive value implies that the online learning experience is in accordance with student preferences. Based on these findings, lecturers from all three generations need to improve and maintain the norms of customisation and entertainment, such as providing assignments according to students' interests, and presenting relaxed online learning, as well as allowing students freedom of expression, and creating a fun online learning atmosphere.

Keywords: Gap generation, online learning, internet generation norm, experience, preference

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Introduction

The internet has become an inseparable part of modern human life. In addition, during the COVID-19 pandemic, all education sectors were compelled to adopt online teaching and learning to contain the spread of the virus. In their study on online learning during the pandemic in Indonesia, Rukmini and Inderawati (2020) found that 50–70% courses taught online was done well due to well-prepared university and its teaching staff, such as in terms of platform selection. The lecturers also prepared the teaching materials in creative ways, in order to make it interesting for students studying the courses. In addition, students also testified that online learning made it easier for them to learn, multitask, become independent, and study more intensively since all the academic activities were done in one virtual space. Moreover, students expect that the existing online learning facilities will continue to be improved, and equip teaching staff or lecturers with digital skills and online teaching skills.

Online learning in higher education during the pandemic resembled that of a elementary school, due to the unpreparedness of the higher education institutions and rapid spread of the pandemic. Students faced numerous challenges of e-learning including appropriate learning resources, technical issues and concentration (Rahman & Lee, 2022). In addition, the lack of digital skills among both students and lecturers made online teaching and learning challenging. Knowledge of ICT is an important prerequisite for online teaching and learning, and student feedback is essential to assess the effectiveness of online learning (Ramasamy & Lee, 2022).

The Ministry of Education and Culture of the Republic of Indonesia, through the policy of “free learning” during the COVID-19 pandemic, encouraged lecturers and students to independently determine the suitable learning approaches for a particular class condition and student competence. This was necessary as the approach would need to match the online learning infrastructure that exist in each region in Indonesia.

Although the pandemic is long over, the switch from conventional learning to online learning remains an alternative to this day (Dos Santos, 2022). However, online learning poses its own set of challenges (Rukmini & Inderawati, 2020). Some students faced difficulties understanding online learning materials as they were not equipped with the right set of skills such as digital skills. In addition, some students also missed several lecture sessions, and were not able to sit for their exams, resulting

in them not graduating from college. At times, some students also lost motivation to learn because they found themselves in unsupportive or less-supportive environments, for example, studying while working or helping parents.

These challenging factors are relevant to lecturers who strive to deliver learning materials as effectively as possible in the virtual space. Further, according to Rukmini and Inderawati (2020), students expect lecturers to be equipped with digital skills and online teaching skills. So, based on online learning experiences, students also have expectations or preferences in regard to teaching methods from lecturers.

Another study demonstrated a character gap in educators who educate different generations living in the Industrial Revolution Era 4.0, and this is a potential problem that must be resolved (Mulyadi & Rahmat, 2019). Currently, educators consist of different generations, that is, the Baby Boomer generation, generation X, and a small percentage from generation Y, while students come from generation Z. As such, differences in character, which involve differences in norms, pose a unique dilemma for online teaching and learning.

In the context of the generation gap between students and lecturers, this study aims to answer the research question (RQ): How do the experiences and preferences of Generation Z students differ from lecturers of the Baby Boomer, X and Y generations in regard to online learning, in relation to the norms of the internet generation?

Specifically, the study aims to explore the experiences and preferences of students from the Z generation and lecturers from the Y, X, and Baby Boomer generations for online learning using Tapscott's theory of internet generation norms. These preferences were analysed using Tapscott's (2008) eight internet generation norms, namely freedom, customisation, scrutiny, integrity, collaboration, entertainment, speed, and innovation. In summary, students' experience will be compared with the online teaching preferences of lecturers during the COVID-19 pandemic.

Literature Review

This study aims to explore the experiences and preferences of students during online learning in relation to the generational norms of the internet. The literature review will look at three concepts, namely experience and preference for learning, as well as norms of the internet generation. An experience refers to an event that is captured by five senses and stored in memory. The experience can be passed on to others to be used as an orientation and for learning (Ismiati & Andayani, 2021). The learning experience is therefore linked to the engagement of the students in the learning process, which takes place together with the lecturers' experience. Hence, student feedback to lecturers is an important aspect of creating a more engaging learning experience (Zerihun et al., 2012).

It should be noted that preferences are semantically ordered from preferred to non-preferred (Brafman & Domshlak 2009). However, preferences are usually difficult to quantify because they are a mixture of feelings, prejudices and other tendencies that lead to an individual's choice. Similarly, learning preferences relate to the different attributes of experiences that an individual perceives, so the individual has a tendency to rank options from likes to dislikes (Ismiati & Andayani, 2021; Mappiare, 1991).

In this study, the online learning experiences and preferences of students and lecturers relate to the internet generation norms defined by Tapscott (2008). The proponents of the generational theory based on historical location, common beliefs and behaviours, and membership of the same period propose that the same generation will experience important historical events and social trends together, resulting in them sharing some of the same beliefs and behaviours (Strauss & Howe, 1991). A generation will distinguish itself as a different group from other generations. Another assumption of Howe and Strauss' (Strauss & Howe, 1991) generation theory is that each generation will be in opposition to the other.

The classification of generational division, according to Tapscott (2008), is as follows:

- a. Baby Boomers, those born in 1946–1964.
- b. Generation X, those born in 1965–1976, also called Baby Bust generation.
- c. Generation Y or millennials, those born in 1977–1997.
- d. Generation Next or Z, those born in 1998–2008. The generation after this is called Alpha, or those born after 2008.

As each generation carries a distinctive culture, there are five different cultures between generations that can be seen today. These cultural differences lead to differences in characteristics such as shopping behaviour (Lissitsa & Kol, 2016). In addition, the ease of technology use also differs between older and younger generations (Canas-Bajo et al. 2016) as well as between generation Y and baby boomers (Sharipudin et al., 2020). Other differences include interpersonal communication between generation Y and baby boomers (Venter, 2017), work atmosphere or work motivation at work (Jirasevijinda, 2018) and education (Mulyadi & Rahmat, 2019).

Differences or gaps in various fields can also be observed in schools or learning institutions, including universities. Studies show that students from the Gen Z group are taught by lecturers from Gen Y, Gen X, and Baby Boomer. Initially, this change was seen in the control effort seen expended by lecturers.

In order to compensate for this generation gap, the paradigm of the lecturers need to be aligned with constructivist teaching. Constructivist lecturers provide opportunities for students to participate in interpreting learning experiences as well as to invite students to actively use technology in order to construct knowledge. This can balance the generation gap between lecturers and students (Lisenbee, 2016).

The differences of generation also affect the values, attitudes and learning preferences of each generation (Lowell & Morris Jr, 2019). According to Kusuma (2017), Gen Z students can be satisfied with Gen Y teachers because the so-called millennial generation might be able to reach the highest potential in maximising internet technology, especially for academic activities. Subsequently, another study showed that 18-year-old students (Gen Z) have been able to communicate their expectations of technological facilities for learning that encourage discussion, collaboration, and interaction, organisation, planning and resource management, experiential learning, personalisation and a desire for effective technology (Dabbagh & Fake, 2017).

Generation Z, according to Tapscott's (2008) classification is included in the internet generation (Gen Net). Additionally, Tapscott (2008) revealed eight norms among the internet generation in several countries, namely:

a. Freedom

Gen Net loves the freedom to choose, where and when to do things, including with whom they want. Thus, they expect the learning process to remain free but orderly, and not restrictive.

b. Customisation

Gen Net can make adjustments to the media used according to personal desires or, in other words, product personalisation. Thus, they might be prioritise aesthetic or beauty aspects, rather than functionality. Simply put, Gen Net prefers unique features, something different from others, and something unique to them. So, educators are also expected to adjust learning objectives according to Gen Net's preference for personalisation, for example, providing flexible assignments, or allowing them to produce some related works according to their desired aesthetics.

c. Scrutiny

Gen Net display high accuracy in distinguishing factual information from false. They tend to be very sceptical and cautious that they always verify the messages they receive. In addition, Gen Net also likes to do their own mini research before buying products online. In other words, Gen Net likes to browse many unique sources to find or discover something. As such, Gen Net wants the materials provided by their lecturer to be in accordance with what is presented in the lecture plan. Likewise, they also tend to examine the content of materials presented.

d. Integrity

Gen Net cares about integrity, honesty, caring, transparency, commitment, tolerance, and fairness. Therefore, they also expect the university administration and its teaching staff to have an honest, caring, accountable, and open attitude.

e. Collaboration

Gen Net likes to collaborate with anyone. In fact, the nature of the internet itself allows opportunities users to become producers as well as consumers, or so-called prosumer. Such a collaboration is required to create high-quality products in the internet. Therefore, educators are expected to not only focus on one direction, but also from various directions, to provide opportunities for students to collaborate with each other, including with lecturers through joint projects.

f. Entertainment

Gen Net likes fun things and are attracted to them emotionally. So, lecturers are expected to teach students in fun ways, including interesting learning materials, so the students will feel entertained.

g. Speed

Gen Net has the ability to quickly find, retrieve, and respond to information, such as in replying to emails. When an email they sent is not responded quickly by the lecturers, Gen Net will text them via chat. Thus, lecturers are also expected to have the swiftness expected by Gen Net in responding to queries or questions.

h. Innovation

Gen Net has the ability to innovate or produce unique things through collaboration. Gen Net loves new things, new stuff, new ideas, new ways, and unique information. Thus, they resist the traditional ways of working such as command and control due to hierarchy or bureaucracy. So, it is hoped that lecturers can be innovative in their teaching.

Based on these eight norms, an instrument was created to map the lecturer's ability in meeting these norms, which will be discussed in the methodology section.

Methodology

As the study is exploratory, a quantitative approach was adopted and data collection was done using an online questionnaire. The respondents were selected using purposive sampling, in which the researcher selects the study sample based on the objectives and purpose to be achieved (Neuman, 2006). As the study aimed to explore students' experiences and preferences regarding online learning in the context of internet generation norms, the researcher selected a sample of communication science students at two major private universities in Indonesia, namely Atma Jaya Indonesian Catholic University (UAJ), Jakarta and Muhammadiyah University of Malang (UMM), Malang, East Java. According to the AppliedHE university ranking, these two universities are among the 25 largest private universities in Indonesia (Prastiwi, 2024). Communication Science students were chosen due to their intense exposure to media studies, which allows them to understand questions about learning media.

As the study involved both lecturers' and students' online learning experiences and preferences, it was vital to check the lecturers' birth year to determine their generation. This was possible since the researcher is a lecturer at both universities and had easy access to the lecturers' birth dates. The respondents comprised 60 active students, who were instructed to answer as many as 72 questions: 36 questions pertaining to experience and 36 questions pertaining to preferences.

In this study, a Likert scale was used for the measurements, which consisted of five responses: strongly agree, agree, neutral, disagree, strongly disagree. This scale is normally used to measure behaviour or attitude. In the context of this study, students' attitudes regarding their experiences and preferences for online learning were examined (Neuman, 2006).

Table 1 shows the matrix of the research instrument, which was then translated into questionnaire questions on experience and preference. The items in the experience section focused on what students have gained, and the items in the preference section looked at students' expectations towards lecturers in online learning.

Table 1. Matrix of research instrument

Code	Attributes of 8 Norms
Freedom (X1)	
P1	Attend online lectures with various platforms
P2	Choose a place to attend online lectures anywhere
P3	Present assignments in a variety of ways
P4	Choose their own team to do tasks
P5	Determine the class schedule at any time
Customise (X2)	
P6	Freedom of self-expression
P7	Presenting material flexibly
P8	Assignments according to student interest
P9	Facilitate the uniqueness of each student
Scrutiny (X3)	
P10	Learning materials from trusted sources
P11	Explore something further
P12	Searching for data sources or references
P13	The discovery of something new from research
P14	Critical on learning material

Table 1. (cont)

Code	Attributes of 8 Norms
Integrity (X4)	
P15	Fair treatment
P16	Honesty in teaching
P17	Transparent in assessment
P18	Commitment to learning contract
P19	Attention to learning difficulties
P20	Openness to feedback
Collaboration (X5)	
P21	Encourage teamwork
P22	Building networks and relationships in the learning process, i.e. presenting guest lecturers, virtual field lectures, etc.
P23	Co-production-based learning
P24	Opportunities to work together with lecturers, that is, being involved in joint projects
Entertainment (X6)	
P25	Fun discussion
P26	Fun online learning atmosphere
P27	Attractive online teaching method
P28	Relaxed learning atmosphere
Speed (X7)	
P29	Quick response to questions and answers
P30	Up-to-date online learning materials
P31	Quick feedback for any works
P32	Smooth operating of online learning features
Innovation (X8)	
P33	New ideas in teaching
P34	New ways of teaching
P35	Creative ideas
P36	Discovery of new ideas with collaboration

Source: Eight norms of internet generation (Tapscott, 2008) adapted by the researcher (2020)

Validity and Reliability Test

The researcher distributed the first questionnaire to 60 Gen Z students (30 UMM students and 30 AJCUI students) who were instructed to assess Gen X, Gen Y, and Baby Boomer lecturers in accordance with the respondent target characteristics. Table 2 shows the results of validity and reliability tests of the questionnaire using SPSS.

Sugiyono (2013) defined the validity test as the degree of accuracy between the actual data and the data collected by the researcher. In order to determine the validity of the items, the item scores and the total score of these items were correlated.

Table 2. Calculation of validity using case processing summary

		N	%
Cases	Valid	60	100.0
	Excluded ^a	0	.0
	Total	60	100.0

a. Listwise deletion based on all variables in the procedure

The results show that all statements are considered valid because they have an r value above 0.2542. Therefore, the test can continue to the next stage. After the validity test, the research team conducted a reliability test. Sugiyono (2013) explained that the reliability test shows the extent to which the measurement results using the same object will produce the same data. The results of the reliability test on 72 question items are shown in Table 3.

Table 3. Calculation of reliability

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	No of Items
.982	.983	72

The level of reliability is determined by the value of the reliability coefficient which ranges from 0 to 1.00. The closer the value to one, the more reliable it is. From the results of the reliability test, the Cronbach value derived for the 72 questions was 0.982. This value is classified as very high and deemed as reliable (Siregar, 2014).

Results

Gap Calculation of Students' Experiences and Preferences based on Internet Generation Norms for Online Learning

The calculation of the gap value between students' experiences and preferences for online learning in the context of the norms of the internet generation was obtained

by calculating the difference between the average value of students' experience and preferences. If the value obtained is negative, then the student's preferences or expectations exceeded the student's experience of internet generation norms in online learning. On the other hand, if the value is positive, the experiences exceed the current preferences or expectations of students.

Gap Calculation of Students' Experiences and Preferences for Online Learning with Baby Boomer Lecturers

The calculations of the gap value between students' experiences and preferences in regard to the norms of the internet generation for online learning with baby boomers are shown in Table 4.

Table 4. Gap between online learning experiences and preferences of Gen Z with Baby Boomer lecturers

Indicator	Sub Indicator	Experience	Preference	Gap
X1	P1	3.31	3.88	-0.57
	P2	3.71	4.22	-0.51
	P3	3.35	3.65	-0.3
	P4	3.67	3.63	0.04
	P5	3.47	3.43	0.04
X2	P6	3.59	3.27	0.32
	P7	3.33	3.65	-0.32
	P8	3.1	3.8	-0.7
	P9	2.98	2.94	0.04
X3	P10	3.78	4.12	-0.34
	P11	3.47	3.88	-0.41
	P12	3.57	3.86	-0.29
	P13	3.49	3.98	-0.49
	P14	3.35	3.16	0.19
X4	P15	3.31	3.84	-0.53
	P16	3.61	4.02	-0.41
	P17	3.31	3.17	0.14
	P18	3.25	3.96	-0.71
	P19	3.06	3.71	-0.65
	P20	3.29	3.98	-0.69

Table 4. (cont)

Indicator	Sub Indicator	Experience	Preference	Gap
X5	P21	3.24	3.51	-0.27
	P22	3.16	3.84	-0.68
	P23	3.08	3.43	-0.35
	P24	3	3.51	-0.51
X6	P25	3	3.73	-0.73
	P26	3.02	2.61	0.41
	P27	2.94	3.22	-0.28
	P28	3.31	4.12	-0.81
X7	P29	3.33	3.57	-0.24
	P30	3.31	3.8	-0.49
	P31	3.2	3.65	-0.45
	P32	3.22	3.76	-0.54
X8	P33	3.14	3.59	-0.45
	P34	3.06	3.27	-0.21
	P35	3.25	3.55	-0.3
	P36	3.18	3.57	-0.39

Table 4 shows that the values for 29 of the 36 norm measurement items are negative, meaning that of the 29 items, students' preferences or expectations exceeded the experience they obtained in the learning process with Baby Boomer lecturers. This means that the ability of this generation lecturers in conducting online learning was below the students' expectation. Subsequently, these 29 items can be used as a guide for the Baby Boomer lecturers in improving their current online teaching, especially for items P8, P18, P25, P28 (largest negative value). Meanwhile, aspects that need to be maintained and improved are those 7 items where the experience values exceeded or equalled the preference values. The highest positive values are P6 and P26.

The total score of gap calculation between Gen Z students pertaining to experiences and preferences for online learning with Baby Boomer lecturers is as shown in Table 5.

Table 5. Gap value of Gen Z's experience and preference norms for online learning with Baby Boomers

Experience	Preference	Gap
3.29	3.64	-0.35

The result indicates that the overall gap between Gen Z's experiences and preferences for online learning with Baby Boomers show a negative value, which means that the overall experience is still lower than the students' expectations or preferences, as much as 0.35.

Gap Calculation of Students' Experiences and Preferences for Online Learning with Generation X Lecturers

The gap values between students' experiences and preferences for online learning with Generation X lecturers are shown in Table 6.

Table 6. Gap between online learning preferences and experiences of Gen Z with Gen X lecturers

Indicator	Sub Indicator	Experience	Preference	Gap
X1	P1	3.81	4.17	-0.36
	P2	4.06	4.24	-0.18
	P3	3.74	3.73	0.01
	P4	4	4.02	-0.02
	P5	3.88	3.52	0.36
X2	P6	4.07	3.38	0.69
	P7	3.96	4.04	-0.08
	P8	3.51	4.09	-0.58
	P9	3.53	3.36	0.17
X3	P10	4.16	4.16	0
	P11	4.05	3.99	0.06
	P12	4.1	3.65	0.45
	P13	4.03	3.92	0.11
	P14	3.99	3.13	0.86
X4	P15	3.96	4.13	-0.17
	P16	4.14	4.11	0.03
	P17	3.8	3.91	-0.11
	P18	4.02	3.89	0.13
	P19	3.74	4	-0.26
	P20	3.96	4.15	-0.19
X5	P21	3.91	3.79	0.12
	P22	3.68	3.85	-0.17
	P23	3.78	3.62	0.16
	P24	3.45	3.35	0.1

Table 6. (cont)

Indicator	Sub Indicator	Experience	Preference	Gap
X6	P25	3.87	4	-0.13
	P26	3.78	3.09	0.69
	P27	3.71	3.54	0.17
	P28	3.9	4.28	-0.38
X7	P29	3.79	3.92	-0.13
	P30	4.13	4.13	0
	P31	3.82	3.91	-0.09
	P32	3.97	4	-0.03
X8	P33	3.81	3.89	-0.08
	P34	3.65	3.7	-0.05
	P35	3.92	3.87	0.05
	P36	3.91	3.92	-0.01

Table 6 shows that the gap value for 18 norm measurement items are negative, meaning that of the 18 items, students' preferences or expectations exceeded their experience of their online learning with Generation X lecturers. The aspects that need more attention are P1, P8, and P28 (largest negative value). Meanwhile, amongst the aspects that need to be maintained and improved, whereby the experience level was higher than or equal to the students' preference level in regard to the norms of generation X, the highest include P6, P14, P26.

The total score of gaps between the experiences and preferences of Gen Z students for online learning with Generation X lecturers is shown in Table 7.

Table 7. Gap value of Gen Z's experience and preference norms for online learning with Gen X lecturers

Experience	Preference	GAP
3.88	3.85	0.03

The result indicates that the overall gap between Gen Z's experiences and preferences for online learning with Generation X lecturers is a positive value, which means that the students' experiences were in accordance with their expectations or preferences. Thus, generation X lecturers need to maintain and improve all the indicators.

Gap Calculation of Students’ Experiences and Preferences for Online Learning with Generation Y Lecturers

The gap values between students’ experiences and preferences for online learning process with Generation Y lecturers are shown in Table 8.

Table 8. Gap between online learning preferences and experiences of Gen Z with Gen Y lecturers

Indicator	Sub Indicator	Experience	Preference	Gap
X1	P1	3.72	4.16	-0.44
	P2	3.98	4.23	-0.25
	P3	3.78	3.76	0.02
	P4	4.02	3.83	0.19
	P5	4.04	3.5	0.54
X2	P6	3.99	3.42	0.57
	P7	3.83	4.1	-0.27
	P8	3.58	4.07	-0.49
	P9	3.46	3.54	-0.08
X3	P10	4.12	4.11	0.01
	P11	3.93	4.1	-0.17
	P12	4.04	3.93	0.11
	P13	3.97	4.01	-0.04
	P14	3.98	3.21	0.77
X4	P15	3.75	4.04	-0.29
	P16	4.04	4.15	-0.11
	P17	3.59	3.97	-0.38
	P18	3.88	3.98	-0.1
	P19	3.74	3.93	-0.19
	P20	3.89	4.24	-0.35
X5	P21	3.82	3.82	0
	P22	3.59	3.93	-0.34
	P23	3.63	3.72	-0.09
	P24	3.46	3.5	-0.04
X6	P25	3.59	3.96	-0.37
	P26	3.59	2.98	0.61
	P27	3.55	3.51	0.04
	P28	3.77	4.25	-0.48

Table 8. (cont)

Indicator	Sub Indicator	Experience	Preference	Gap
X7	P29	3.7	3.85	-0.15
	P30	3.85	4.11	-0.26
	P31	3.71	3.9	-0.19
	P32	3.93	3.94	-0.01
X8	P33	3.74	3.88	-0.14
	P34	3.58	3.74	-0.16
	P35	3.88	3.91	-0.03
	P36	3.82	3.91	-0.09

The gap values between students' experience and preference for 26 norm measurement items are negative, meaning that of the 26 items, students' preferences or expectations exceeded their experience of the learning process with Generation Y lecturers. This means that the ability of generation Y lecturers in conducting online learning did not meet the students' expectation. Subsequently, the 26 items can be used as a guide for generation Y lecturers in improving their online teaching practices, especially for items P8, P1, P28 (largest negative value). Meanwhile, as many as 10 items represent the aspects that need to be maintained and improved, in which the highest are P5, P6, P14, P26.

The total score of gap between Gen Z students' experiences and preferences for online learning with Generation Y lecturers is shown in Table 9.

Table 9. Gap value of Gen Z's experience and preference norms for online learning with Gen Y lecturers

Experience	Preference	Gap
3.79	3.87	-0.07

Table 9 shows that the overall gap between Gen Z's experiences and preferences for online learning with generation Y lecturers is a negative value, which means that the students' experiences were lower than their expectations or preferences, with a gap value as much as 0.07. Despite the small value, this gap is still a concern that generation Y lecturers should address to improve their online teaching.

Overall, the average gap value between the learning preference and experience of Gen Z students and Baby Boomer lecturers was -0.35 ; Gen Z students and Generation X lecturers was 0.03 ; and Gen Z students and Gen Y lecturers was -0.07 . Negative values indicate that the students' experiences were lower than their expectations or preferences, while a positive value means that their experiences met

their preferences. In summary, generation X lecturers' were able to meet students' expectations while Baby Boomer and generation Y lecturers' did not, in which the highest gap was the Baby Boomer lecturers, as much as 0.35.

Some of the aspects that need to be improved, based on the significant gap value of the indicator was the need for all the generation lecturers to adjust their tasks according to students' interests, and to provide a more relaxed learning atmosphere. In particular, Baby Boomer lecturers need to conduct class discussions in a fun way while generation X and Y lecturers should utilise various platforms to present their lectures.

Additionally, the norms of the internet generation that need to be improved were freedom, customisation, and entertainment. Entertainment is one aspect that needs significant improvement, based on the gap value for its two indicators: fun class material discussion and a relaxed learning atmosphere.

Discussion

Based on the findings, Baby Boomer lecturers, born in 1946–1964 or are 61–79 years old, did not provide students with a satisfactory online learning experience such as giving assignments according to their interests (customisation), commitment to learning contracts (integrity), fun discussions, and a relaxed learning atmosphere (entertainment). However, their online teaching did encourage students' freedom of expression (customise), and a fun online learning atmosphere (entertainment).

Basically, the gap value between students' experiences and preferences with lecturers from the Baby Boomer generation is negative, which means that the students' expectations exceed their experiences. Lecturers from the Baby Boomer generation, who have a relatively large age difference with Generation Z students (born 1998–2008, 17–27 years old), have to adapt with each other in their interactions. This is because Generation Z was born and grew up in a world dependent on internet technology. Therefore, Gen Z is familiar with user-generated content and inclined towards producing content in social networks (e.g., social media), blogs, collaborative projects (e.g., Wikipedia), and virtual games (Sultan et al., 2021).

Baby Boomers, on the other hand, were born when technology was not as pervasive as it is today. They are, therefore still attached to traditional ways and lifestyles. However, they are characterised by their ability to compensate for real-world situations (Cox, 2016). They have a high perseverance to continue their education and learn technology as well as be associated with young people (Venter, 2017). Thus, to bridge this gap in online learning, there needs to be communication between students and lecturers from different generations, so that expectations are aligned. The gaps highlighted by the findings include assigning tasks according to students' interests, a fun and relaxed online learning atmosphere and a commitment to do a learning contract.

Next, generation X lecturers' (born 1965–1976, aged 49–60) online teaching did not include presenting lectures using various platforms (freedom), providing assignments according to students' interests (customisation), and creating a relaxed learning atmosphere (entertainment). However, Generation X lecturers provided online learning experiences that gave students the freedom to express themselves (customisation) and critique learning materials (scrutiny) as well as create a fun online learning atmosphere (entertainment).

Overall, the gap between Generation X lecturers and Generation Z students is positive, meaning that students' expectations are the same as their online learning experiences. Basically, Generation Xers love freedom and change, are tech savvy and able to use technology to personalise or humanise their teaching. This generation is able to take what exists in cyberspace and apply it to the real world. This generation is also well-educated. This suggests that high-level education is positively related to the ability to learn and apply digital skills. Gen Xers have also started developing technology to make their jobs easier (Rahardyan et al., 2023; Reisenwitz & Iyer, 2009). Therefore, they are able to encourage students to express themselves freely, create a pleasant learning atmosphere, and customise learning materials to become more effective.

Generation Y or millennial lecturers, those born between 1977 and 1997 or between 28 and 48 years old, did not provide an online learning experience that provided assignments based on student interests (customisation), presented online lectures on multiple platforms (freedom), or created a relaxed learning atmosphere (entertainment). However, Generation Y lecturers were able to provide flexible class times (freedom), freedom of expression (customisation), critical review of learning materials (scrutiny), and a fun online learning atmosphere (entertainment).

Like Generation X, Generation Y is also tech-savvy, and is the first generation to use instant messaging emails, and cell phones since childhood. Generation Y is comfortable with technology and knows how to solve problems with technology. Generation Y is a multimedia generation, who can handle many digital tasks (Reisenwitz & Iyer, 2009).

Generation Y or millennials have a certain idealism when it comes to technology. Therefore, there may be a clash with Generation Z students because of this idealism. The overall result of the discrepancy between Generation Y lecturers and students is therefore negative. This means that students' expectations did not match their experiences (Eckleberry-Hunt & Tucciarone, 2011; Reisenwitz & Iyer, 2009). The gap expectations relate, in particular to assigning tasks that correspond to the students' interests, presenting online lectures on various platforms and creating a relaxed learning atmosphere.

Results demonstrate that indicators for internet generation norms were both positive and negative for all generations of lecturers. These lecturers were less likely to provide students with interest assignments (customisation) and a relaxed online

learning atmosphere (entertainment). However, they were able to give students the opportunity to express themselves freely (customisation) and a fun online learning atmosphere (entertainment).

Internet generation norms, especially customisation and entertainment, appear to be either meeting (positive value) or not meeting (negative value) student expectations for all generations of lecturers. According to Tapscott (2008), the customisation norm suggests that the internet generation has a unique character or is different from others, requiring lecturers to personalise. With regard to the entertainment norm, which denotes fun and emotionally interesting, lecturers must offer interesting tasks in line with the preferences of Generation Z and create a relaxed online learning atmosphere. Nevertheless, lecturers must strive to maintain both norms, especially the freedom of expression of students and a pleasant atmosphere for online learning.

In order to help the Gen Z students stay motivated and learn well, lecturers need to review and customise the learning tasks to students' interests, deliver and discuss learning materials in a fun way, and utilise various platforms such as videos and memes on YouTube, and Instagram, as well as celebgrams (influencers on Instagram) that have become Gen Z idols (Christiani & Ikasari, 2020; Irawati & Jonatan, 2020; Rastati, 2018). Essentially, communication is the key to understanding and meeting student needs through various means such as text, video, etc. In addition, the right content can help students practise and improve skills such as reading and writing. Thus, online learning needs to be designed creatively, interactively, relevant, student-centred, and group-based (Partlow & Gibbs, 2003). Incorporating online discussions also trains students to ask questions and broaden their horizons pertaining to the subjects being taught (Keeton, 2004; Mohan et al., 2010).

However, the most important aspect in online learning is actually student's self-management due to the high flexibility or freedom afforded by this method (Blankenship & Atkinson, 2010). This is supported by a constructivist social environment such as families who help students manage their time, as well as learning environments that foster critical thinking skills, collaborative learning, adequate online learning facilities, etc. (Parkes et al., 2015).

Conclusion and Recommendations for Future Study

The results reveal that the average gap between the learning preferences and experiences of Gen Z students with Baby Boomer lecturers was -0.35 , Gen X lecturers, 0.03 and Gen Y lecturers, -0.07 . The negative values indicate that the students' experience is still lower than their expectations or preferences, while the positive value means the online learning experience is in accordance with student preferences.

Furthermore, the findings suggest that lecturers of the all three generations (Baby Boomer, X and Y) need to improve and maintain the norms of customisation and entertainment, through practices such as giving assignments according to students' interests, providing a relaxed and fun online atmosphere, and allowing students to express themselves freely.

Based on the gap value for each norm, lecturers would need to improve their online teaching process in order to keep the generation Z students motivated and enjoy their learning process. This extends to their lecture design which involves teaching style, type of assignments, learning evaluation, and interactions between students and lecturers.

The use of advanced technology in education today is inevitable and is even considered vital. However, in addition to acquiring digital skills and applying technology, educators also need to understand the norms of the internet generation of students who use technology for learning. By understanding the norms of Generation Z in online learning, educators can make teaching fun and effective. The insights from this study can be a valuable guide and increase the awareness of higher education management in providing the best education possible, in accordance with the norms of generation Z students.

A limitation of this study is the use of samples which were limited to two universities where the researchers were employed. Thus, the results are not generalisable. For future studies, a larger sample can be used to overcome this limitation, such as university representatives.

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