Exploring AI Chatbot Development for Gen-Z: A Study on First-Time and Experienced Voters in Pemilu

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Abstract

Artificial intelligence (AI) chatbots have been utilized as interactive learning platforms for higher education. Gen-Z was a generation that quickly adopted the latest technology. Several Gen-Z students participated in the Pemilu (general elections in Indonesia) for the first time in 2024. Therefore, this research aimed to develop an AI chatbot to give information about Pemilu to Gen-Z voters. The researcher developed the AI chatbot with several steps: data collecting, training, evaluating, refining, and analyzing conversation data. A group of 100 Gen-Z students took part in testing the AI chatbot. The researcher discovered that it was essential to keep refining the AI chatbot by improving the datasets and putting more context in it. Next, the researcher asserted that experienced Gen-Z voters asked more questions, as they have prior knowledge of experiencing the previous elections. Most of the experienced Gen-Z voters asked advanced questions, while most of the first-time Gen-Z voters asked basic questions. Moreover, the AI chatbot was a suitable learning platform for Gen-Z as they used metacognitive strategies to experiment with their questions to get the correct information from the AI chatbot. That action automatically helped the AI chatbot to improve its performance as part of the training step.

Keywords: Artificial Intelligence, AI chatbots, Pemilu, Generation Z

Abstrak

Artificial intelligence (AI) chatbots telah digunakan sebagai platform pembelajaran interaktif pada level pendidikan tinggi. Gen-Z adalah generasi yang cepat mengadopsi teknologi. Beberapa siswa dari kalangan Gen-Z akan berpartisipasi dalam Pemilu untuk pertama kali pada tahun 2024. Oleh karena itu, penelitian ini bertujuan untuk mengembangkan AI chatbot yang dapat memberikan informasi kepada Gen-Z tentang Pemilu. Peneliti mengembangkan AI chatbot melalui beberapa langkah: data collecting, training, evaluating, refining dan analyzing data percakapan. Sebanyak 100 orang mahasiswa Gen-Z berpartisipasi dalam proses testing chatbot. Peneliti menyimpulkan bahwa sangatlah penting untuk tetap melakukan proses refining dengan cara memperbaiki datasets dan menaruh lebih banyak konteks ke dalamnya. Peneliti juga menemukan bahwa experienced voters melontarkan pertanyaan lebih banyak daripada first-time voters. Kemudian, experienced voters juga menanyakan topik yang lebih advanced karena mereka sudah mempunyai pengalaman mengikuti Pemilu, sedangkan first-time voters hanya menanyakan pertanyaan dasar tentang Pemilu. Selain itu, AI chatbots adalah platform yang cocok untuk Gen-Z karena mereka cenderung menggunakan stratgegi metacognitive untuk terus bereksperimen dengan pertanyaan - pertanyaan agar mendapatkan jawaban yang tepat dari chatbot. Hal ini secara otomatis juga akan meningkatkan performa dari chatbot sebagai bagian dari proses training AI chatbot.

Kata kunci: *Artificial Intelligence, AI chatbots*, Pemilu, *Generation Z*

INTRODUCTION

Artificial intelligence (AI) powered chatbots or AI chatbots are one of the latest technologies reported by Ng and Lin (2022), categorized as conversational AI. They summarized conversational AI as using AI technology to automate conversations between humans and machines. This technology enabled

AI chatbots to simulate conversations using natural language processing (NLP) and machine learning to interact naturally with humans (Ng & Lin, 2022).

Wang, Yuan, Shi, Tang, and Shi (2022) reported that Generation Z (Gen-Z) were those born between the mid-to-late 1990s and early 2010, and they were also known by the term "digital natives" as they were born in the rise of the internet era and digital technologies. Gen-Z also had a more positive attitude towards rapid technology development, including artificial intelligence (Wang et al., 2022). According to Y. Liu et al. (2023), Gen-Z was more open-minded, preferred experiential learning, could multitask, and preferred to work independently. Besides, Gen-Z preferred interactive learning with various media and platforms (Y. Liu et al., 2023). A study about Gen-Z learning style concluded that Gen-Z preferred to use an assimilating learning style by being interested more on the abstract conceptualization and reflective observation in their learning process (Manzoni, Caporarello, Cirulli, & Magni, 2021).

The year 2024 was the political year for the Indonesian people as the government conducted general elections (Pemilu) in early 2024 (CNN Indonesia, 2023). One of the criteria for voters was to be at least 17 years old when the election was held (KPU, 2023). Hence, several Gen-Z would be the first-time voters in Pemilu in 2024. Those first-time voters would start to prepare themselves with knowledge about Pemilu regulations and the candidates from media, such as social media (Indra, 2023). Several studies discovered the relationship between Gen-Z voters and social media as one of their primary communication technology channels (Ohme, 2019). The studies reported that social media exposure determined the offline participation of Gen-Z voters, especially first-time voters. Moreover, the studies found that exposure to direct communication from the candidates through social media could cause polarization and affect their voting decisions (Alwie et al., 2022; Dewi, Pawito, & Satyawan, 2022; Gherghina & Mitru, 2023; Lin, 2016; Ohme, 2019). Therefore, by looking at the rapid development of conversational AI, the characteristics of Gen-Z, and their attitude toward technology, the researcher found the need to develop an AI chatbot as an alternative technology to social media to inform first-time and experienced voters about the Pemilu in 2024. This research aimed to experiment with developing an AI chatbot to provide knowledge about the Pemilu in 2024 and test it on Gen-Z users. Moreover, this research also analyzes the interactivities between the AI chatbots and Gen-Z voters. These were the research questions for this study:

RQ 1: How to develop an AI chatbot to provide Pemilu information for Gen-Z voters?
RQ 2: What are the differences in interaction with the AI chatbot between first-time and experienced voters?

Literature and Methodology

Several studies discussed first–time voters' characteristics and behavior during political elections, especially on how the current communication technology such as social media affected their participation in the election. Ohme (2019) asserted that first-time voters were more exposed to direct political communication on social media because most of them were also digital natives who used social media as their primary source of information. Ohme (2019) concluded that social media created polarized information environments for first-time voters that can increase their participation in the election. Nevertheless, first-time and experienced voters obtained political news content from social media (Ohme, 2019). Furthermore, Lin (2016) reported that first-time voters' active online engagement in political activities on social media, such as Facebook, directly influenced their offline participation in political activities after the election. However, first-time and experienced voters' passive exposure to political activities on Facebook indirectly influenced their offline participation after the election (Lin, 2016). Moreover, Dewi et al. (2022) discovered that exposure to local election news on Instagram positively influenced political participation among first-time voters. Gherghina and Mitru (2023) stated that first-time voters engaged with their preferred candidates as part of their online activities on social media. However, their political engagement was not based on random engagement but as a result of their interest in political

events and information (Gherghina & Mitru, 2023). Furthermore, Alwie et al. (2022) suggested that social media as a form of political promotion was an effective channel to reach first-time voters who were also part of the younger generation. They asserted that social media can increase the candidates' engagement with this generation and influence their voting decisions.

There have been many previous studies on AI chatbots for educational purposes, such as research from Pillai, Sivathanu, Metri, and Kaushik (2023), which investigated the use of AI chatbots for learning purposes in higher education. They stated that AI chatbots provided vital benefits, such as becoming a 24/7 teacher's assistant available anytime to interact with students and create a personal learning experience. Moreover, higher education students, mostly the young generation, who quickly adapted to new technology, were motivated to use chatbots as they feel usefulness and ease of use (Pillai et al., 2023). Qasem et al. (2023), in their research on AI chatbots as an interactive platform for language study, discovered that AI chatbots can enhance the learning process by giving personalized and direct feedback to the users. They stated that the AI chatbot could represent real-world situations and conversations that helped users quickly understand the study's application. Next, they also found out that the AI chatbots allowed users to arrange their study time and place themselves without worrying about class schedules. Moreover, AI chatbots provided interesting engagement in learning, creating an exciting study environment (Qasem et al., 2023).

Furthermore, a study from Sáiz-Manzanares, Marticorena-Sánchez, Martín-Antón, González Díez, and Almeida (2023) analyzed the perceived satisfaction of university students when using chatbots for their learning process. They utilized a model of self-regulated learning and metacognitive strategies to measure satisfaction, which consists of four types of metacognitive strategies that consists of four types of metacognitive strategies, which are orientation, planning, evaluation, and elaboration (van der Stel & Veenman, 2014). The study discovered that students with prior knowledge of the subject have better learning outcomes but did not influence their satisfaction. Moreover, master students had higher chatbot usage and had better learning outcomes than bachelor students (Sáiz-Manzanares et al., 2023). However, most of the questions from both master and bachelor students reflected metacognitive orientation strategies and only a small percentage of the questions showed metacognitive planning strategies (Sáiz-Manzanares et al., 2023).

Despite the benefit of AI chatbots as interactive learning platforms, Gill et al. (2024) argued that AI technology has potential educational drawbacks. First, they asserted that the AI chatbot depended on the users' technological adoption, which could cause digital divide challenges among diverse learners. Thus, they argued that not all targeted learners can utilize the AI chatbot for their study platforms. Second, they discovered that AI chatbots could give irrelevant explanations for their dependency on information credibility in datasets. Therefore, they stated that checking the credibility of the data was crucial before using it as the dataset. Finally, they concluded that AI chatbots cannot surpass human educators in expressing adequate emotion, empathy, and creativity in learning (Gill et al., 2024).

This research aimed to develop an AI chatbot that would provide information about the Indonesian general election, or Pemilu, held in 2024. This AI chatbot's primary target users were Generation Z (Gen Z), that were also students in higher education and universities, and it was designed as an interactive platform to give them knowledge about Pemilu.

Adapting the AI chatbot development method from Peyton and Unnikrishnan (2023), the researcher developed the AI chatbot with the following steps:

1. Collected the datasets: in this step, the researcher collected general knowledge and news about Pemilu and created datasets for the AI chatbot.
2. Divided the datasets into categories: the researcher monitored the popular topics on Pemilu and divided the datasets according to the topic.

3. Selected an AI chatbot platform: the researcher chose a suitable platform and deploys the AI chatbot for Gen-Z.
4. Trained the AI chatbot: the researcher deployed and tested it on the Gen-Z targeted users.
5. Evaluated the AI chatbot: The researcher evaluated the AI chatbot's performance in answering questions. In addition, the researcher analyzed and categorized the users' questions.
6. Refined the AI chatbot: based on the training and evaluation, the researcher improved the datasets to increase the AI chatbot performance.

As mentioned, the researcher evaluated the AI chatbot to improve its performance and interactivity. Specifically, the researcher also analyzed the differences in interactivity with the chatbot between first-time and experienced voters. Adapting the method from Abonizio et al. (2023), the researcher evaluated and analyzed the AI chatbot using these steps:

1. Quantitative data analysis: The researcher identified the topics the Gen-Z commonly asked and conducted descriptive statistical analysis to find frequencies, percentages, and other valuable analyses to measure the AI chatbot's effectiveness.
2. Qualitative data analysis: The researcher analyzed the questions that became Gen Z's concerns and evaluated the AI chatbot's ability to address those issues.
3. Finding the differences in interactivities with the chatbot, between the first-time and experienced voters, especially related to their learning styles as Gen-Z students.

RESULTS AND DISCUSSION

AI chatbot development

This study's objective was to develop an AI chatbot for Gen-Z voters to give them knowledge about the Pemilu in 2024. Regarding RQ 1, the researcher developed the AI chatbot by applying the method from Peyton & Unnikrishnan (2023). First, the researcher monitored the media using the Brand24 monitoring tool from mid-June to mid-July 2023. The timeframe was chosen because the President of Indonesia has declared the end of the COVID-19 pandemic and the beginning of the endemic period on June 21, 2023 (Suhenda, 2023). Thus, Indonesia's government and people can finally focus on improving other aspects while still maintaining a healthy lifestyle (Suhenda, 2023). Moreover, at that time, the society, especially first-time voters, started to prepare themselves with knowledge about Pemilu, and several media have started to provide relevant information for them (Indra, 2023).

After monitoring the media, the researcher found several popular topics about Pemilu in mainstream and social media. To create the datasets, the researcher decided to directly compile the news from the media that appeared as highly influential in the monitoring tools. Next, to maintain the credibility of the content, the researcher also mentioned the news sources in the documents. Based on the popular topics in the media, the researcher divided the datasets into several categories. These categories were the presidential and vice-presidential candidates, the political parties, the political coalitions, the political parties' events and campaigns, the endorsement from parties, and other trending political issues. The researcher created separate datasets for each of the categories.

Furthermore, the researcher checked potential AI chatbot platforms suitable for this research objective. The researcher decided to choose CustomGPT for the platform. CustomGPT was a platform from OpenAI that provides a straightforward tool for developing AI chatbots. The platform used the powerful ChatGPT as the AI chatbot's core technology to provide AI-powered conversation and data training. The researcher decided to use CustomGPT because of the ease and flexibility of uploading the datasets as .doc or .pdf into the platform. Moreover, it provided an easy way to publish and share the AI chatbot as a webpage (CustomGPT, 2020).

The researcher conducted several stages in deploying the AI chatbot and testing it with real Gen-Z users who were higher education students, specifically at Petra Christian University. The university was chosen because it was where the researcher worked as a lecturer. Therefore, the researcher was familiar with the characteristics of the students that would be beneficial for qualitative data analysis. The researcher conducted the testing in two different settings, during classes and by invitation. The testing was held from July to August 2023, as at that time the media had published much news about the upcoming election and Gen-Z had started to search for information about it on the media (Indra, 2023). In the first test, 10 Gen-Z students were invited to test the AI chatbot by asking questions about Pemilu. The researcher observed the chat history and found several questions the AI chatbot failed to answer. Next, the researcher did the training by adding more content to the dataset and retesting the AI chatbot with the same unanswered questions. When the AI chatbot still could not answer correctly, the researcher added more content to the datasets and provided more detailed context for the AI chatbot. The researcher proceeded to the next test if the AI chatbot had successfully answered the questions.

In the second test, the researcher asked 30 different Gen-Z students in a class to test the AI chatbot and did the same steps conducted in the first test to train and refine the AI chatbot. The researcher continued to the third and fourth tests with 30 other Gen-Z students during a class for each test. In total, 100 Gen-Z students participated in those tests. This study did not collect any personal data such as age and gender, as the study only concerned about the characteristics of first-time and experienced voters of Gen-Z.

Adding context to the datasets

During the training, evaluating, and refining stages, there were several questions that the AI chatbot failed to answer, not because of the absence of related data but due to the lack of context in the datasets. For example, in the first stage, the AI chatbot failed to understand the questions about who would be the vice-presidential candidate for an officially announced presidential candidate. The researcher found that the question used the term "cawapres" for "calon wakil presiden," the Indonesian language for the vice-presidential candidate. The datasets only provided information with the phrase "calon wakil presiden." Thus, the researcher added an explanation in the dataset that "cawapres" was the common abbreviation of "calon wakil presiden." The abbreviation "cawapres" was not exclusively used by Gen-Z but was also generally used by Indonesians. After refining the datasets, the AI chatbot could respond and give answers to any questions about cawapres.

Another example was several users who asked about the prediction of Pemilu's result. As an AI-powered chatbot, it had essential logical thinking and general knowledge from its core technology, ChatGPT (CustomGPT, 2020). Thus, as part of its logic, the AI chatbot initially did not want to answer questions about the result prediction. It stated that it only functioned as a virtual AI assistant and could not predict the Pemilu result.

However, when refining the AI chatbot, the researcher added more context to the datasets regarding those issues. The researcher added the latest reports on candidate preference polls. Moreover, the researcher also inserted data about the list of achievements and performances of each candidate. As a result, instead of apologizing for its inability to predict the Pemilu result, the AI chatbot gave a more reasonable explanation and consideration. For instance, the AI chatbot replied that it could not predict the result but could give information about each candidate's latest public pre-election poll. Furthermore, if the question specifically referred to specific candidates and their electability, the AI chatbot also replied by providing more data about their historical background and achievements.

The researcher found that adding more context to the datasets was crucial so the AI chatbot could respond with a more reasonable explanation rather than just apologizing for its inability to answer. This step was strongly related to user satisfaction in using the AI chatbot; as Boubker (2024) stated, the quality of an AI chatbot's output was one of the significant indicators of user satisfaction. He argued that the more valuable the response, the more satisfied the users are. Moreover, H. Liu, Peng, Song, Xu,

and Zhang (2022) discovered that users were more satisfied when the AI chatbot could help them understand issues. They also stated that the more satisfied the users are, the more likely they will recommend the AI chatbot to others.

Data analysis

As part of the AI chatbot development phase (RQ 1), the researcher conducted data analysis regarding the performance and effectiveness of the AI chatbot. Moreover, regarding RQ 2, the researcher analyzed the questions to find the differences in interaction with the AI chatbot between first-time and experienced voters. Adapting the method from Abonizio et al. (2023), the researcher analyzed the data using quantitative and qualitative methods. As seen in Table 1, the researcher divided the conversations between users and AI into several question categories. A question can be included in more than one category.

However, not all the questions from users can be answered by the AI chatbot, and the default response was to apologize to the users. Therefore, as detailed in Table 1, the researcher also checked the frequency and percentage of questions that the chatbot could answer for each category. The following paragraphs will explain several examples of the data and how the researcher analyzed the performance of the AI chatbot based on the data in Table 1.

The category "Person or entity" had the most questions (23.79%). This indicated that Gen-Z voters liked to include persons or other entities such as candidates' names or political parties in their questions. This category also had 12.93% of questions across all categories successfully answered by the AI chatbot. For example, they asked who the vice president candidates from the Partai Demokrasi Indonesia Perjuangan (PDIP) were. Another question asked about what political parties supported Prabowo Subianto as a presidential candidate. However, the AI chatbot could not answer 10.85% of questions included in this category. For example, how Ganjar Pranowo's feeling as a presidential candidate was. The AI chatbot could not answer that question simply because there was no information about it in the dataset. As part of the training steps, the researcher added the required data for the unanswered questions in the data set.

Furthermore, the category with the second-highest number of questions was "Presidential candidates" (21.02%). This category also had the most questions answered by the AI chatbot (14.32%) as that category consisted of straightforward questions with clear answers based on the data, which were the names of the presidential candidates. The rest of the questions in the "Presidential candidates" category could not be answered because of the absence of data in the early tests.

Table 1.
The Category and Frequency of Answered and Unanswered Questions

Question Category	Number of Questions		Answered		Unanswered	
Person or entity	103	23.79 %	56	12.93 %	47	10.85 %
Presidential candidates	91	21.02 %	62	14.32 %	29	6.70 %
Vice-presidential candidates	55	12.70 %	29	6.70 %	26	6.00 %
Candidates' electability	32	7.39 %	12	2.77 %	20	4.62 %
Pemilu schedule	31	7.16 %	28	6.47 %	3	0.69 %
Campaigns	30	6.93 %	22	5.08 %	8	1.85 %
Political parties	28	6.47 %	17	3.93 %	11	2.54 %
Candidates' performance and profiles	20	4.62 %	9	2.08 %	11	2.54 %
Pemilu regulations	9	2.08 %	6	1.39 %	3	0.69 %
Pemilu obstacles	8	1.85 %	3	0.69 %	5	1.15 %

Party coalitions	5	1.15 %	3	0.69 %	2	0.46 %
Endorsements to candidates	5	1.15 %	2	0.46 %	3	0.69 %
Prediction of Pemilu results	4	0.92 %	2	0.46 %	2	0.46 %
Pemilu 2024 turning point	3	0.69 %	0	0.00 %	3	0.69 %
Miscellaneous	9	2.08 %	3	0.69 %	6	1.39 %
Total	433	100%	254	58.66%	179	41.34%

Source: Research result, 2023

In the 'Campaigns' category, 5.08% of all questions across all categories remained unanswered. The AI chatbot had adequate data to answer questions in the "Campaigns" category because the researcher had added popular news about the campaign and programs of the candidates and their supporting parties in the datasets. For example, there were questions about whether there was a political party that promised to make health insurance (BPJS) freely accessible to all Indonesian people. Another question was about a rumor that one of the presidential candidates would invite K-pop groups to join the political campaign. Those previous questions were popular topics for Pemilu. Therefore, the researcher compiled and added the latest news to the datasets, as it was vital to monitor the prevalent issues and topics in the media before preparing the datasets.

Furthermore, there were questions in the category 'Prediction of Pemilu results' where 0.46% of all questions across all categories remained unanswered. Besides the absence of data, the main reason was that most of the questions were impossible to answer. For example, the Gen-Z voters asked who the next President would be. Of course, the AI chatbot could not predict who would win the election. Nevertheless, after adding more context to the datasets, such as the independent survey results and the political parties' support, the AI chatbot can answer those questions reasonably. In addition, it also gave information about all the candidates' profiles and information about the latest survey results.

Another category such as "Candidates' performance and profiles" had 2.54% of all questions across all categories remained unanswered. The researchers considered the questions unanswered if the AI chatbot apologized because it could not answer the questions. Nevertheless, after training, evaluating, and refining phases, the AI chatbot can answer those typical questions reasonably. For example, there was a question about whether Ganjar Pranowo, one of the presidential candidates, would have the same vision as Joko Widodo, the current President of the Republic of Indonesia if he won the election. The AI chatbot apologized because it could not predict who would be the future president. However, it also explained that based on the data, Ganjar Pranowo's leadership style was similar to Joko Widodo's style. Additionally, at the end of the response, the AI chatbot also stated that it could not predict the future President's vision and mission. Thus, it was crucial to train, evaluate, and refine the AI chatbot to give the correct answers based on valid datasets without sacrificing the user's satisfaction because of its inability to answer the questions.

Other unanswered questions came from the category "Candidates' performances and profiles," which was about the benefit the Gen-Z voters could get if they chose a certain candidate, especially one that was related to the candidates' past performances. The AI chatbot answered that it could not predict the election result and future benefits they could get if a particular candidate won. However, the AI chatbot gave information about the candidate's profile and past performances in the government. The AI chatbot also gave general guidance on evaluating a candidate, such as monitoring critiques from the public, investigating a candidate's value, and diligently observing all the programs that the candidate offered.

Table 2.
First-time and experienced voters' question category

Question Category	Number of Questions		First-Time Voters		Experienced Voters	
Person or entity	103	23.79 %	47	10.85	56	12.93
Presidential candidates	91	21.02 %	57	13.16	34	7.85
Vic-presidential candidates	55	12.70 %	29	6.70	26	6.00
Candidates' electability	32	7.39 %	14	3.23	18	4.16
Pemilu schedule	31	7.16 %	19	4.39	12	2.77
Campaigns	30	6.93 %	14	3.23	16	3.70
Political parties	28	6.47 %	15	3.46	13	3.00
Candidates' performance and profiles	20	4.62 %	15	3.46	5	1.15
Pemilu regulations	9	2.08 %	4	0.92	5	1.15
Pemilu obstacles	8	1.85 %	2	0.46	6	1.39
Party coalitions	5	1.15 %	1	0.23	4	0.92
Endorsements to candidates	5	1.15 %	1	0.23	4	0.92
Prediction of Pemilu results	4	0.92 %	3	0.69	1	0.23
Pemilu 2024 turning point	3	0.69 %	1	0.23	2	0.46
Miscellaneous	9	2.08 %	4	0.92	5	1.15
Total	433	100%	226	52.19	207	47.81

Source: Research result, 2023

Next, the researcher analyzed the questions' categories based on user characteristics. Specifically, the researcher divided the categories as the frequently asked questions by first-time and experienced voters. As detailed in Table 2, questions in these categories are commonly asked by first-time voters, such as "Presidential candidates," "Vice- presidential candidates," "Candidates' performance and profile," and "Pemilu schedule." Those categories were generally the basic-level knowledge of Pemilu. Whereas experienced voters were most likely to ask about next-level knowledge questions such as "party coalitions," "candidates' electability," and "endorsement to candidates." Experienced voters also asked about the uniqueness or the turning point that makes the next Pemilu better than previous ones.

Nevertheless, because of the advanced-level questions from the experienced voters, there were unpredictable questions that were difficult to answer. For example, there was a question about why Partai Solidaritas Indonesia (PSI) would support Prabowo Subianto as one of the presidential candidates. Another example was a question on which presidential candidate Joko Widodo supported. Because the researcher did not prepare the answers for next-level types of questions from experienced voters at the early testing stage, the AI chatbot apologized because it could not provide helpful information. However, after refining the datasets, the AI chatbot successfully answered those next-level questions.

Moreover, instead of apologizing, the AI chatbot also tried to provide answers to several difficult questions from experienced voters. For example, questions about the candidates' electability, such as how big the chance of each presidential candidate to win the election was. The AI chatbot did not answer by giving the percentage of the candidate's chances of winning. Instead, it answered by giving the latest independent survey results about each presidential electability. Also, it gave information about political parties' activities to support their candidates. Nevertheless, it also answered that as an AI chatbot, it could not predict the election results. Therefore, although there were no exact answers in the datasets, the AI chatbot compiled related data to give alternative information. Another difficult question came from an experienced voter who first asked about whether PDIP would be a dominant political party in the election. At that time, the data provided in the datasets did not specifically mention the dominant parties in the

election. However, the AI chatbot did not merely apologize; it gave information about how PDIP was currently trying to form a coalition with other political parties based on news content in the datasets.

Furthermore, first-time and experienced voters frequently mentioned a specific person or entity in their questions. For example, an experienced voter asked about the percentage chance that Gibran Rakabuming Raka would be nominated as vice president. By the time of this research, there were still no decisions about Gibran's candidacy as vice president. The AI chatbot answered by apologizing and stating that there was no information yet on the percentage probability of Gibran's candidacy. However, the AI chatbot also compiled other information about Gibran. It gave relevant knowledge about him, especially the ones related to his candidature, such as his profile as the mayor of Surakarta.

Finally, the researcher concluded that it was necessary to continuously observe the characteristics of each type of user before preparing the datasets. It was also crucial to make a list of questions commonly asked by each type of user so the datasets already provided the related information to those questions.

Table 3.
The number of questions in one conversation session

	First-time voters	Experienced voters	All voters
Valid	46	54	100
Mean	3.283	3.519	3.41
Std. Deviation	1.515	2.683	2.216
Minimum	1	1	1
Maximum	7	12	12

Source: Research result, 2023

Furthermore, the researcher also analyzed the number of questions from each of the first-time and experienced voters. As listed in Table 3, both first-time and experienced voters asked at least one question in one conversation session to the AI chatbot. However, experienced voters asked up to 12 questions in one session, whereas first-time voters only asked seven questions in one session as the most. Thus, the researcher asserted that Gen-Z with prior knowledge about the topic, the experienced voters, were most likely to interact more with the AI chatbot. These findings contradict the previous study by Sun et al. (2023), which concludes that the users' prior knowledge does not influence how users interact with the AI chatbot. Nevertheless, the findings were in line with the study's result by Sáiz-Manzanares et al. (2023) about how students with prior knowledge of the subjects interacted with AI chatbots. The study discovered that master students had higher chatbot usage than bachelor students (Sáiz-Manzanares et al., 2023).

Moreover, there were common interactivity types for first-time and experienced voters, especially those who asked more questions than others. For example, a Gen-Z student who was an experienced voter asked 12 questions in one session and tried to refine the unanswered questions to make the AI chatbot understand the questions. For example, the student asked who the capres and cawapres of the Pemilu in 2024 were. At that time, the datasets did not provide information that "capres" was an abbreviation for "calon presiden" (presidential candidates) and "cawapres" for "calon wakil presiden" (vice-presidential candidates). The student then clarified the questions using the longer terms "calon presiden" and "calon wakil presiden." As a result, the AI chatbot can finally answer correctly.

Similar interactivity came from a Gen-Z student who was an experienced voter and asked ten questions in one session. The question was about the issue of the lawsuit from political parties that can cause a postponement of Pemilu. Because the student was part of the early stage of chatbot testing, the datasets had not provided information about that issue. Therefore, the AI chatbot failed to answer and apologized for its incapability to answer. However, the student thought the AI chatbot did not understand the terms used in the question. The student used the term "gugatan partai," which means the lawsuit from

the party. Thus, the student changed the term to "gugatan Pemilu" or Pemilu lawsuit in the following questions. Unfortunately, until the third question, the AI chatbot still failed to answer because of the absence of the related data.

Another example came from a Gen-Z student who was a first-time voter, with seven questions in one session, who asked about the presidential candidates' names. At that time, the datasets provided information about several potential candidates and the announcement of the three officially announced presidential candidates. Somehow, the AI chatbot only provided information about two officially announced presidential candidates, Anies Baswedan and Ganjar Pranowo, and mentioned the other unofficial potential candidates' names. Thus, the student tried to dig deeper by asking about Prabowo Subianto's status as a presidential candidate. At the end of the conversation, the AI chatbot can give the names of the three officially announced presidential candidates: Anies Baswedan, Prabowo Subianto, and Ganjar Pranowo.

Another typical interactivity came from a Gen-Z student who was a first-time voter, with seven questions in one session about when Ganjar Pranowo joined the PDIP political party. Unfortunately, the datasets did not have the information to answer the question. Therefore, the AI chatbot failed to answer and apologized. Nevertheless, the student tried to get the information by modifying the questions. Instead of asking for specific data, the student asked for more general information: who Ganjar Pranowo was. As a result, the AI chatbot responded by explaining Ganjar Pranowo's profile, including his active participation in the PDIP. In addition, the AI chatbot gave detailed information by compiling all the data about Ganjar Pranowo in the dataset. Therefore, the researcher asserted that the AI chatbot gave valuable and relevant information about a person or entity in the questions, regardless of whether or not the AI chatbot could answer them. It was essential as that information can provide more detailed knowledge on general elections for both first-time and experienced voters.

Furthermore, a student who was an experienced voter with six questions in one session asked consecutive questions about the issue of one of the candidates inviting K-pop singers to support his presidential campaign. For the first question, the student tried to confirm the information about the involvement of K-pop in the candidate's political campaign. The AI chatbot answered that based on the data, the candidate had the idea to invite K-pop, but it was to increase the economic turnover of the local communities. Even though the AI chatbot had already given a clear answer, the student still tried to dig for more information based on the previous answers. The student's following question was about how K-pop would contribute to the economic turnover. Thus, the AI chatbot explained that inviting K-pop could increase local communities' income, especially in the tourism sector, when many people from other regions came to watch the K-pop performance. However, the student was still curious and asked why it had to be K-pop and no other famous artists. The AI chatbot then explained that K-pop was currently one of the most popular music genres among younger generations in Indonesia. Thus, it would be a good idea to invite K-pop as it would improve the economy of the local communities. Nevertheless, the student was still inquisitive about this issue and asked the final question to ensure that there was no relationship between K-pop and the candidate's political campaign. Interestingly, the AI chatbot compiled the answer by including previous answers that mention the economic benefits as the primary purpose of inviting K-pop. This conversation showed that the AI chatbot could respond based on a series of conversations related to each other.

Those examples indicated similar interactivity patterns from Gen-Z students who were first-time and experienced voters, especially those who asked questions more than others in one conversation session. Specifically, when the AI chatbot failed to answer, instead of stopping asking questions, the students would try to modify their questions by changing the terms and perspective of the question. Moreover, these findings were consistent with the discoveries from Sáiz-Manzanares et al. (2023) in their research about using AI chatbots as learning platforms for higher education students. The authors asserted that students employed metacognitive strategies when formulating the questions, which encouraged them to

independently apply the orientation, planning, evaluation, and elaboration strategies, especially in their interactions with the AI chatbots. Most of the students used the orientation strategy to interact with the AI chatbots but only a small percentage of the questions used the planning strategy, and no questions used evaluation and elaboration strategies (Sáiz-Manzanares et al., 2023). Similar to the study, the researcher also discovered that first–time and experienced voters mostly utilized orientation strategy in the questions. However, they also employed the other strategies in an insignificant proportion of questions. For example, they employed the planning and evaluation strategy by trying to refine the unanswered questions with alternative phrases to make the chatbot understand their questions. In addition, they also used the elaboration strategy by mentioning and concluding previous answers before asking the next questions. The researchers argued that when the AI chatbots failed to answer, the first-time and experienced Gen-Z voters would use the metacognitive strategy by proactively evaluating the answers and also planning and elaborating on the following questions to get the correct information from the AI chatbot.

Therefore, these explorations show that AI chatbots were suitable platforms for Gen-Z voters, as most of them were higher education students. As stated by Gill et al. (2024), the AI chatbots' answers depend on the datasets, and the AI chatbots could give incorrect answers because of the data variations in large datasets. Therefore, consistent with Peyton and Unnikrishnan (2023), there must be prior training, evaluation, and refining stages during the early deployment of the AI chatbots. These facts match Gen-Z learners' characteristics, as they tended to evaluate and plan for more comprehensive questions to get the correct information from the AI chatbots. These actions from the Gen-Z learners were similar to the steps during the training, evaluating, and refining stages. As they kept asking questions, the AI chatbots also learned how to give the correct answers to those questions.

CONCLUSION

The researcher developed the AI chatbot with several steps: data collecting, training, evaluating, refining, and analyzing conversation data to evaluate the AI chatbot's performance. There were essential parts in the development that would determine the performance of the AI chatbot, especially when the primary purpose of the AI chatbot was to give information and knowledge about a very dynamic topic such as Pemilu for Gen-Z. First, monitoring the trending issues and collecting the most frequently asked questions about Pemilu was crucial, as Gen-Z will probably ask the AI chatbot for that popular information. Secondly, the training, evaluating, and refining part should be conducted in several stages so the AI chatbot can learn and improve the ability to answer based on the interactivity with the users over those stages. Third, giving context to the data was crucial, as the questions can come from various perspectives. The context was also helpful when Gen-Z asked challenging questions that were impossible to answer or when the answers had not been provided in the datasets. In that case, the AI chatbot can give more reasonable information instead of apologizing for its inability to answer. Particularly for complex questions, the AI chatbot can also provide alternative information related to those unanswered questions.

Finally, analyzing, categorizing, and evaluating the conversations were essential based on the target users' characteristics. The researchers discovered that experienced Gen-Z voters asked more questions than Gen-Z first-time voters, as they have prior knowledge and have experimented with participating in previous elections. Furthermore, most of the experienced Gen-Z voters asked advanced questions, while most of the first-time Gen-Z voters asked basic questions Thus, the AI chatbot should be ready to provide the correct answers for all those voters. Moreover, the researcher found the AI chatbot suitable for giving information and knowledge about Pemilu to Gen-Z. This finding was related to the tendency of both first-time and experienced Gen-Z voters to conduct metacognitive strategies, as they proactively experiment with their questions to get the correct answers from the AI chatbot. The ability of the AI chatbot to answer several interrelated questions in sequence also matched with the Gen-Z metacognitive learning style. Nevertheless, the Gen-Z metacognitive learning style was also beneficial for improving the AI chatbot, as it can be considered part of training, evaluating, and refining steps.

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