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DESIGN OF APPSHEET CIVIC DISPOSITIONS SURVEY (CDS) TO UNDERSTAND CHARACTERS GEN Z STUDENTS

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Abstract

This study designed and evaluated the Civic Dispositions Survey (CDS) Gen Z students using a Design-Based Research (DBR) approach. The study follows four stages: needs analysis, user-friendly interface design, application development with Android Studio and Google Firebase, also application testing involving 22 student respondents, 6 expert validators, and 311 implementation respondents. Statistical analysis was conducted using SPSS 27. The results indicated that the CDS AppSheet enhanced interactivity and efficiency in data collection, as confirmed by Cronbach's Alpha > 0,7, indicating high reliability, and Kendall's W test ($p < 0,05$), demonstrating expert agreement on usability. The high effectiveness of the AppSheet occurred because digital technology enabled real-time data collection, improving efficiency and accuracy in measuring students' civic dispositions. The discussion highlighted that digital-based tools improved data accuracy, provided a more engaging survey experience, and facilitated real-time collection. Javanese respondents dominated the sample (91,96%), with the highest civic disposition score on "Respect for the Rule of Law" (95,8%), while "Commitment to Government Service" scores the lowest (55,90%). This study contributes to the development of an innovative, technology-driven assessment tool for civic dispositions in both academic and social contexts. The impact of this research is significant because it enhances civic education through digital means, making assessments more accessible, accurate, and scalable for future studies.

Keywords: Character, Civic dispositions survey (CDS), Design of AppSheet, Gen z, Students.

1. Introduction

Research on Gen Z students' civic dispositions is crucial because they will shape future civic engagement. Civic dispositions are key to fostering active democratic participation [1]. Gen Z, highly connected to digital technology, often engages in social activism through social media [2-4]. The civic dispositions survey (CDS) AppSheet is essential for understanding how civic education influences civic dispositions and political engagement.

Studies have explored technology's role in education [5, 6]. A WebGIS application enhanced students' understanding of peace and conflict [7], while a voting advice app shaped political attitudes in civics classes [8]. At the college level, intelligent computing models optimized civic education pathways [9], and digital comics improved students' civic understanding [10].

This study designs and implements the CDS AppSheet using Design-Based Research (DBR) to assess Gen Z's civic dispositions. Traditional data collection faces challenges, including time constraints, cost, and potential biases [11, 12]. The study's novelty includes (i) using digital applications to assess Gen Z civic dispositions, (ii) integrating technology with DBR, and (iii) validating and testing applications through a quantitative approach.

2. Literature Review

Figure 1 illustrates an Android-based survey app designed to collect and analyse user data through integrated components. Many reports regarding the use and develop Android have been well-developed [13]. The process starts with AppSheet Design, which includes interface development and data collection, followed by User Interface and Experience, ensuring user engagement. Users provide input through Surveys and Questionnaires and In-app Feedback, capturing responses in context.

Data is processed via Behavioral Data Collection and further analysed in Analytics and Reporting for deeper insights. Social Media Integration tracks trends, while Customization and Personalization tailor experiences to individual profiles. These elements contribute to Character Profiling, helping understand Gen Z's civic dispositions.

This research aligns with studies on Android applications for intelligent diagnosis of children with disabilities, integrating bibliometric analysis, experiments, and AI to improve early detection accuracy [14]. Similarly, Android applications have been used to enhance mathematical thinking skills, particularly in understanding and calculating speed [15].

3. Method

We used the DBR method, developing the application with Android Studio and Google Firebase. The study involved 22 student respondents, 6 expert media validators, and 311 respondents for implementation. Data analysis was conducted using SPSS 27, following stages of (i) needs analysis, (ii) user-friendly interface design, (iii) application development, and (iv) functionality testing. Detailed information regarding the use of statistical analysis is explained elsewhere [16-18].

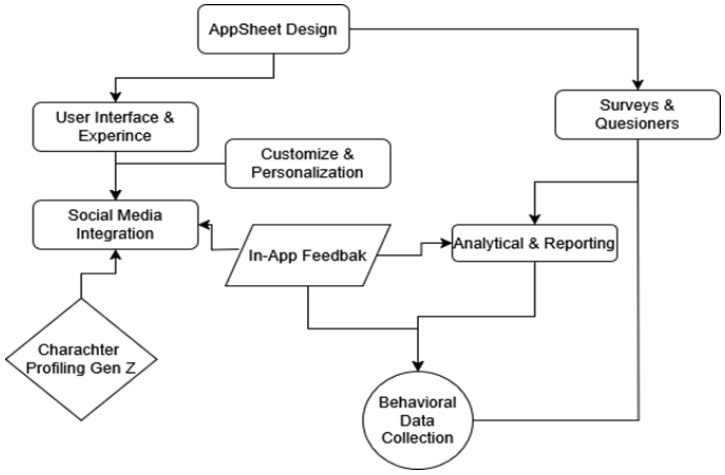

Fig. 1. Android-based survey application framework for gen z character.

4. Results and Discussion

Figure 2 illustrates the CDS AppSheet workflow for collecting data on Gen Z students' civic dispositions. The process begins at the Homepage, where users select Start and can review Instructions for Use to understand the app's functionality. The Main Menu serves as a hub, directing users to survey components. Users first input their Respondent Identity for data analysis. The survey includes three measurement scales:

(i) Civic Dispositions Scale – assesses democratic values and social participation.

(ii) Living Values Education Scale – evaluates the application of life values in civic contexts.

(iii) Learning Media Scale – measures educational media effectiveness in civic education.

This structured workflow ensures comprehensive data collection for analysing Gen Z civic dispositions. It aligns with research on civic education using physiological data recognition algorithms to assess cognitive and emotional impacts [19, 20]. It explored civic participation through compliance and non-compliance perspectives [21-23].

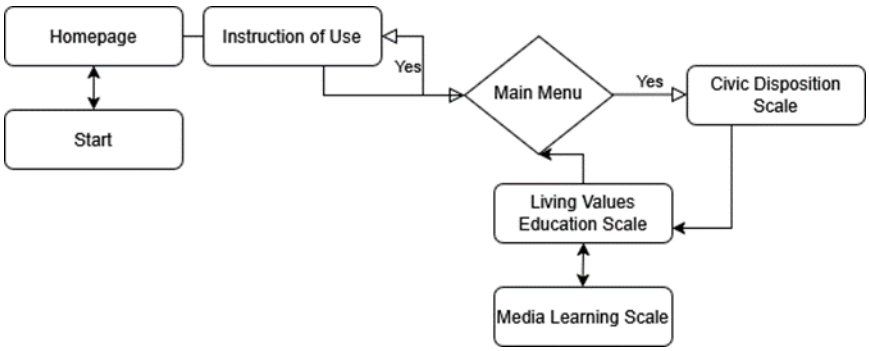

Fig. 2. Flowchart of CDS AppSheet.

Figure 3 displays the CDS AppSheet interface, designed to collect data on Gen Z students' civic dispositions. The application includes several key views:

(i) Home Page – features an "I am ready" button to start the survey.

(ii) Respondent Identity Form – collects personal data input for analysis.

(iii) Main Menu – provides access to survey scales, including the Living Values Education Scale, Learning Media Scale, and Student Civic Dispositions Scale.

(iv) Instruction Page and Navigation Elements – includes buttons and text input fields for a seamless user experience.

The simple and responsive design ensures efficient survey completion. This aligns with research on cognitive differences between digital natives and digital immigrants, emphasizing how technology influences learning, information processing, and thinking patterns [24-26].

The results from respondents aged 18–21 years (*mean* = 18,44) confirm that the sample primarily consists of Gen Z digital natives, with a low standard deviation, indicating data homogeneity across variables. Descriptive analysis shows that Javanese dominate the ethnic distribution at 91,96% (286 respondents), while other ethnic groups are represented in smaller proportions: Sundanese (3,86%), Malay (1,93%), Batak (0,96%), Buginese (0,96%), and Betawi (0,32%, 1 respondent).

These findings align with research on civic engagement among ethnic minority youth, highlighting factors influencing community participation [27, 28]. Additionally, they support studies on civic dispositions in students, emphasizing factors shaping civic attitudes in education [29].

Fig. 3. Display civic dispositions survey (CDS) AppSheet.

Table 1 presents a descriptive analysis of seven citizenship indicators, showing an overall average score of 75,19% with a moderate variation (standard deviation = 11,72). The highest-scoring indicator, Respect for the Rule of Law (95,80%), suggests strong legal awareness among respondents. Conversely, Commitment to Government Service (55,90%) received the lowest score, indicating lower interest

in public service. Most indicators scored above 70%, including Political Attentiveness (77,40%), Civic Duty (74,85%), Community Involvement (71,40%), Political Efficacy (73,60%), and Political Tolerance (77,40%), reflecting good citizenship awareness and engagement. These findings align with research on social, cultural, and behavioural shifts influencing civic engagement, leadership, and future work trends [30].

The CDS AppSheet is an effective digital tool for assessing Gen Z students' civic dispositions, offering interactivity and efficiency in a user-friendly format. Reliability (Cronbach's Alpha > 0,7) and expert validation Kendall's W test ($p < 0,05$) confirmed its consistency and usability. Survey results indicated generally positive civic dispositions. This study highlights the importance of digital tools in real-time data collection, ensuring accurate and scalable assessments for civic education. This adds new information regarding the use of AppSheet as reported elsewhere [31].

Table 1. Results of civic dispositions survey.

No.	Indicator	Average Score (%)
1	**Respect for the Rule of Law**	95,80
2	**Political Attentiveness**	77,40
3	**Civic Duty**	74,85
4	**Community Involvement**	71,40
5	**Commitment to Government Service**	55,90
6	**Political Efficacy**	73,60
7	**Political Tolerance**	77,40
	Total Average Score	526,35

5. Conclusion

This study confirms the effectiveness of the CDS AppSheet as a digital tool for assessing Gen Z students' civic dispositions. Developed using the Design-Based Research (DBR) method, the application enhances interactivity, efficiency, and accuracy in real-time data collection. Reliability tests and expert validation affirm its consistency and usability. The survey results indicate strong civic awareness, with Respect for the Rule of Law scoring highest and Commitment to Government Service scoring lowest. This research highlights the importance of integrating digital technology into civic education assessments, making them more accessible, accurate, and scalable for future studies.

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