

Development of Digital Sihebat for Assessment Seven Habits of Great Indonesian Children in Elementary School

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ABSTRACT

The use of technology in the Digital Era in the world of education is needed to facilitate the assessment of students, be it cognitive competence, psychomotor and even character assessment contained in affective competence. SIHEBAT is a digital platform developed by researchers in learning to conduct character assessments in students. The researcher conducted research on the development of the SIHEBAT platform on the learning process of students at SDN 2 Sukamurni. This study aims to 1) how to develop this SIHEBAT platform in the assessment of the 7 habits of great Indonesian children in elementary school, and 2) how this SIHEBAT platform can be applied in the assessment of the 7 habits of Indonesian children in elementary school. The type of research used is Research and Development (R&D), and the research model uses D&D which contains the EDDIE stage, namely Design and Development with a qualitative approach. The population in this study is 8 teachers at SDN 2 Sukamurni, Cilawu district, Garut regency using purposive sampling. The data collection technique used was non-test with documentation studies, interviews and questionnaires. The technical data analysis carried out in this study is a quantitative descriptive analysis, with validation tests, feasibility tests and acceptance tests. The results of the study show that the SIHEBAT digital platform obtained a "feasible" assessment in the content domain and "very feasible" in the construction domain and has a very high level of acceptance of the user. From the material experts, seven habits of great Indonesian children obtained a score of 91.25% with the interpretation of the material very feasible to use. This proves that the results of the research can answer the problem and make a positive contribution to the assessment of the seven habits of great Indonesian children in elementary schools.

Keywords: digital platforms, character assessment, SIHEBAT, seven habits of great Indonesian children, D&D,

ADDIE

INTRODUCTION

Character assessment is one of the important pillars in education in Indonesia. Habituation programs in elementary schools aim to form students who not only excel academically, but also have strong character and positive habits. One of the initiatives launched by the government on December 27, 2024, to be precise, is the

Great Indonesian Children's Seven Habits Movement, which includes the habits of waking up early, worshipping, exercising, eating healthy and nutritious, enjoying learning, socializing, and sleeping faster. The implementation of this movement in the field faces significant obstacles, especially in the aspect of program assessment and evaluation. At SDN 2 Sukamurni Garut, teachers have difficulty in assessing the development of students' habits due to the absence of standard assessment instruments and clear evaluation standards. The manual assessment carried out so far only uses checklist sheets, is susceptible to subjectivity, and is difficult to document systematically.

In line with the rapid development of digital technology, there is an opportunity to design an assessment platform utilizing technological developments. This platform is expected to be able to answer the challenges of efficiency

and accuracy in assessment, as well as provide reports that are easily accessible and analyzed by teachers and schools. So that it is narrowed down to the formulation of the problem in this study, namely how to analyze, design, develop, implement, and evaluate the development of the SIHEBAT platform for the assessment of the seven habits of great Indonesian children in elementary schools. Therefore, this study proposes the development of digital SIHEBAT to bridge this gap.

This research aims to develop the SIHEBAT digital platform as a solution in student character assessment. By utilizing Google-based technology (Google Sites, Google Sheets, and Apps Script), this platform is expected to make it easier for teachers to input, process, and report assessments of the seven habits of great Indonesian children in real-time. SIHEBAT is an acronym for the Habits, Education, and Behavior Assessment Tool Information System.

RESEARCH METHODOLOGY

The type of research used is Research and Development (R&D), and the research model uses D&D, namely Design and Development with a qualitative approach. The population in this study is 8 teachers at SDN 2 Sukamurni, Cilawu district, Garut regency using purposive sampling. The data collection technique used was non-test with documentation studies, interviews and questionnaires. The technical data analysis carried out in this study is a quantitative descriptive analysis, with validation tests, feasibility tests and acceptance tests.

The stages of research conducted by the researcher are as follows:

1. Identify the problem;
2. Defining the objectives;
3. Design and development (design & develop the artifact);
 - a. Analyze: literature and policy review of the seven habits of great Indonesian children, analysis of manual document assessment and interviews, as well as needs analysis and determining technical standards;
 - b. Design: conceptual design, flowchart, storyboard, platform interface design, prototyping, drafting rubrics for the assessment of the seven habits of great Indonesian children, as well as technical design of feedback;
 - c. Develop: develop prototypes, build systems and integrate features by utilizing Google Sites (frontend), Google Sheets (database), and Google Apps Script (backend logic).
 - d. Implementation: Small-scale trial with three educators and validation from media experts (IPI Garut lecturers) and material experts (supervisory coordinator);
 - e. Evaluation: Revision of the platform based on validator input and retesting.
4. Test the artifact;
5. Evaluate test results; &
6. Communicating the results of the evaluation of the test results.

For the calculation of the content and product domain media feasibility test, follow the calculation steps carried out below.

Validator answers from a scale of five on each item of the instrument item in each aspect.

Calculate the mean answer score of each aspect with the formula:

$$\bar{x} = (\sum x) / n$$

Where:

\bar{x} : the average score of each aspect

$\sum x$: The total number of scores obtained from each aspect
n : Number of aspect criteria

For the assessment of the feasibility of the overall construction of the platform is carried out in the same way by involving all item scores in the three assessment segments with the formula:

$$\bar{x}_t = (\sum x_i) / N$$

Where:

\bar{x}_t : Average overall score

$\sum x_i$: Total score obtained overall

N : Total criteria

RESULTS AND DISCUSSION

1. Stages of Identifying the Problem

The launch of the program to habituate the seven habits of great Indonesian children launched by the Ministry of Education has caused problems in the field related to accurate monitoring, assessment, and follow-up methods. The assessment carried out currently only uses checklist sheets without proper processing and follow-up. This is a problem because on the one hand they have to make an assessment, on the other hand they have difficulty in conducting the assessment.

2. Defining Goals

Based on the findings of the above problems, a research objective was determined, namely the creation of an assessment platform to be able to help and even solve problems in the research location.

3. Design and Development Stages

At this stage, it is the main step of research using the design and development model using the ADDIE design model framework.

a. At the **analysis stage**, starting from the results of literature reviews, observations, and interviews with educators, information was obtained about the movement of the seven great habits of Indonesian children rolled out by the government since December 27, 2024, which raises problems or gaps in the way the program is assessed. This is because educators do not yet have a standard format for assessments, standard criteria, as well as a standard report card format for student development reports. Until now, it is known that the assessment of the seven habits of great Indonesian children still uses habituation checklist sheets modified from the guidebook of the seven habits of great Indonesian children movement launched by the government. This makes it difficult for educators to process and provide assessment decisions to plan follow-up to the results of the assessments carried out. From the results of the interviews, it was also obtained that educators need media to help assess the programs mentioned above that can make assessment easier, practical, efficient, and digitalized.

b. At the **design stage**, the researcher has produced a conceptual and visual framework of an assessment platform called "SIHEBAT" digital which includes the design of the assessment data structure, the design of the platform usage flow, the design of the user interface, the selection of the technology used, the creation of flowcharts and storyboards. All of these components are designed comprehensively to suit the needs of users who can support the systematic and structured assessment of the seven habits of great Indonesian children.

Google sites as a public platform that presents a view that can be accessed by users. In its main function, google sites is a place to embed the front-end hypertext markup language (html) as an embed to become the official page of the platform. Furthermore, google sheets has the main function of storing recap data and google apps script functions to handle the backend, more specifically to retrieve data and process and save assessment data to google sheets.

The following is presented with a flowchart of the workflow of the digital platform system.

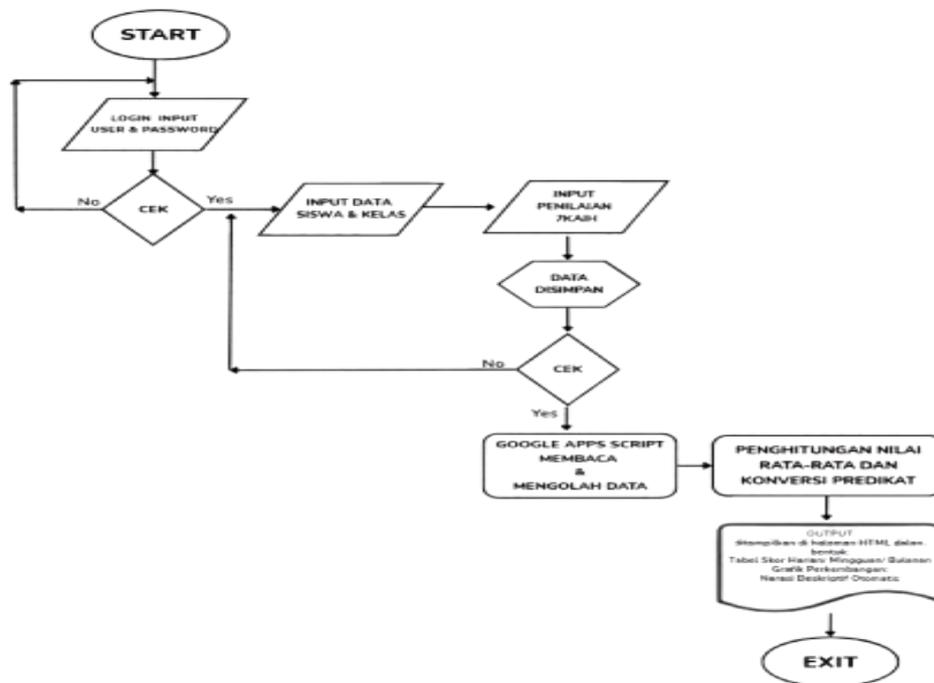


Figure 1. System Workflow Flowchart

To clarify the framework in product manufacturing, the researcher made a prototype as the initial basis for product development. In the content design section, the researcher also determined the assessment criteria for the seven habits of great Indonesian children as standardization for measurement, assessment, and evaluation.

c. In the **development** stage, the researcher develops a prototype that is created at the design stage by integrating selected products such as google sites, google spread sheet, google app script, and html. These google products are integrated with the assessment criteria of the seven habits of great Indonesian children and produce an assessment platform as an initial product.

From the results of the experts' tests on the initial product, it was obtained that the interpretation was less feasible in the content domain and feasible in the construction domain. Meanwhile, from material experts, obtaining a very decent interpretation. Apart from the results of the feasibility test, the platform is also revised based on suggestions and input from experts so that a new product can be created as a result of the revision.

d. At the **implementation** stage, the product was tested on a small scale with only three educators as users and experts, both media experts and experts in the seven habits of great Indonesian children. To get an idea of the feasibility of the platform's performance, the researcher uses a pre-defined test sheet and communicates directly with the user to ask for feedback and suggestions regarding the assessment using the platform.

e. At the **evaluation stage**, the researcher analyzed data related to the results of the implementation of the SIHEBAT platform. The things that are found, either in the form of performance or related to the design of the platform, are revised at this stage. So that the platform can be used appropriately in research.

4. Product Test Stages

After being considered sufficient in the initial development stage, the researcher implemented the use of the platform by conducting product tests involving media expert validators, material experts, and all platform users. This is a stage to test the feasibility of the assessment platform from the domains of content, constructs, and materials of the seven habits of great Indonesian children and the level of user acceptance.

5. Evaluation of Product Test Results

From this stage, information was obtained on the results of the content domain assessment obtained a mean score of 3.96 with an interpretation suitable for use, in the construction domain a mean score of 4.42 was obtained with a very feasible interpretation and from the material feasibility test of seven habits of great Indonesian children obtained a percentage value of 91.25% with the interpretation of the material very suitable for use, has high quality, and fulfills its purpose effectively.

From the assessment of the level of user acceptance, a mean score of 4.54 was obtained with a very high acceptance interpretation and a comparison of the old work system and the new work system obtained 48.44% of the new work system was more effective using the digital SIHEBAT platform.

The following are the results of the platform display after completing the feasibility test and revision results sourced from validators and platform users.



Figure 2. Initial view

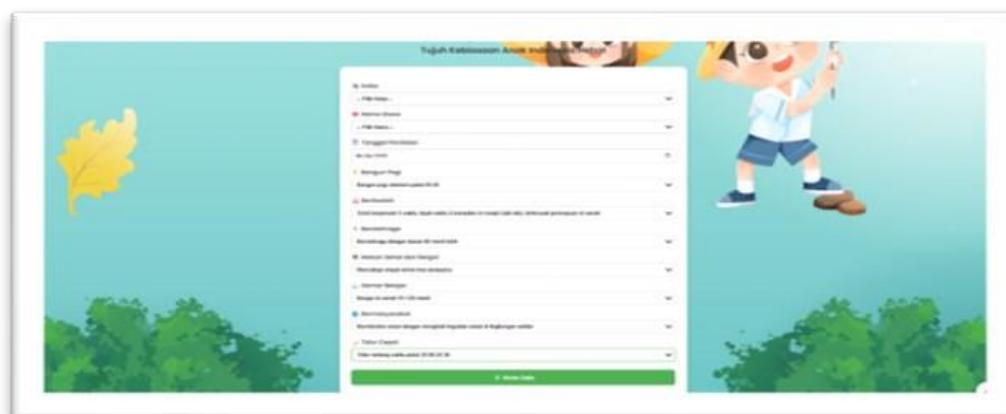


Figure 3. Display of the SIHEBAT Form & Submit Button

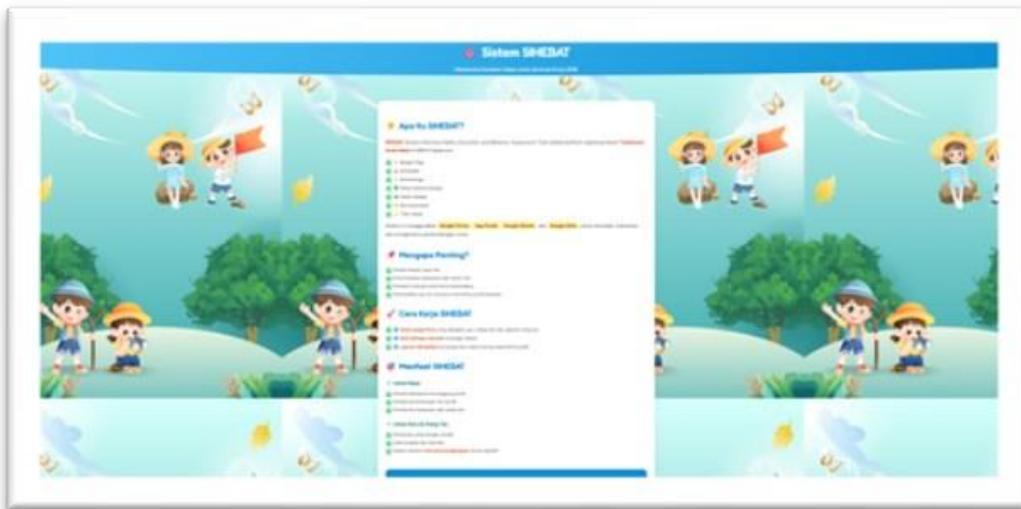


Figure 4. View of the Digital SIHEBAT Program



Figure 5. Instructions for Use View

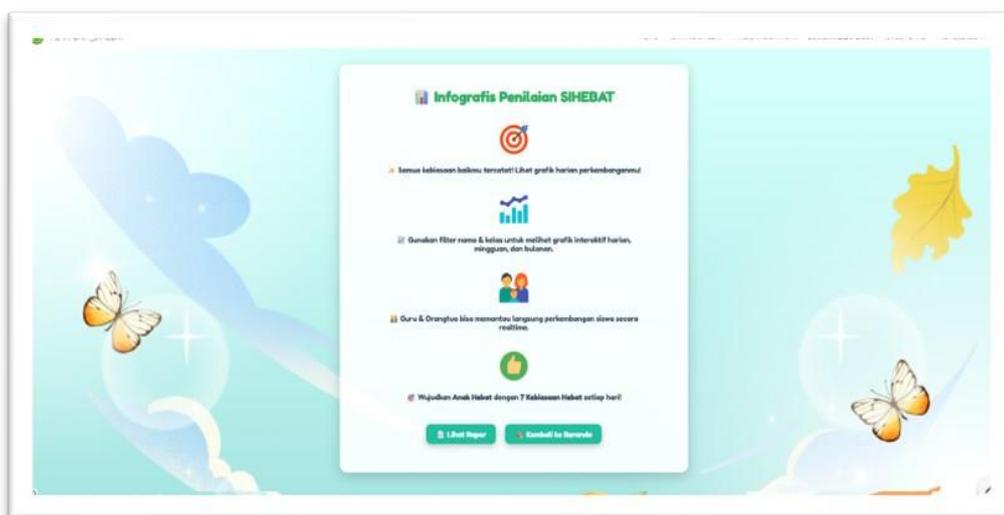


Figure 6. Statistics & Report View (Page to Report Card)

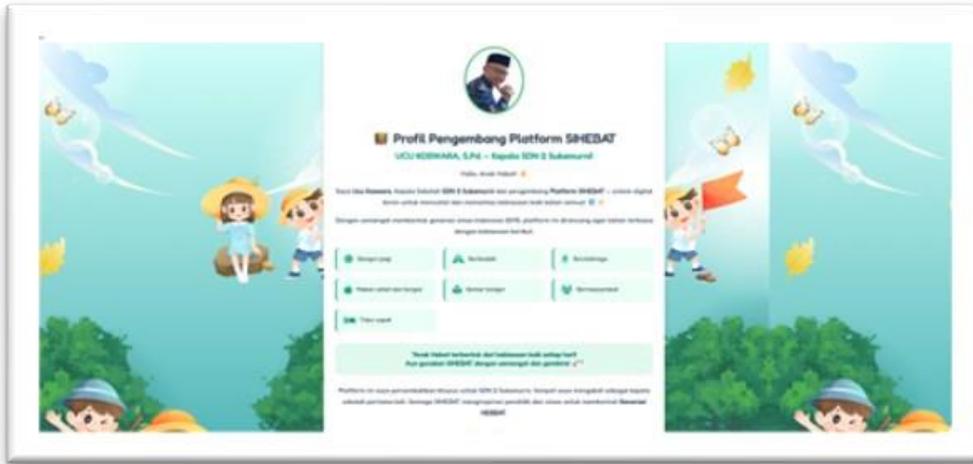


Figure 7. Developer Profile View



Figure 8. School Profile View



Figure 9. Assessment Report Card Format Display 6. Communicating Product Test Results

The researcher communicates the results of the evaluation or analysis of the data obtained and then concluded as material for a written report and communicated in a hearing in front of the examiner. The process of communicating the results of this analysis contains various information about the process of analysis, product design and development, the contribution of products developed in research to the realm of education, the relationship between the research conducted with other relevant researches and how the results of data analysis are compatible with the previously set research objectives.

DISCUSSION

The main purpose of this research is to develop a digital assessment platform called SIHEBAT as a tool for educators in assessing the seven habits of great Indonesian children at SDN 2 Sukamurni. Development is carried out using the Design and Development (D&D) model from Richey & Klein (2007), which consists of six stages including identifying the problem, defining the objectives, designing and developing the artifact, testing the artifact, and evaluating the results of product trials (evaluate the testing result), and communicate the test result.

The results of the analysis show that the special character assessment system for the assessment of the seven habits of great Indonesian children at SDN 2 Sukamurni is still carried out manually through paper and does not have a standard standard in its implementation and reporting. This finding is in line with Iswantinigtas and Wulansari (2018:363) who stated that teachers have difficulty in assessing character values due to the limitations of formats and instruments.

From interviews with educators who have more than 17 years of experience, it is also known that they find it difficult to assess the seven habits because there are no evaluation standards or practical media used. This is strengthened by the results of the questionnaire which showed that all teachers used mobile phones for more than three hours per day and felt more effective if the special character assessment of the seven habits of great Indonesian children was carried out through digital devices. This finding strengthens the argument from Warsita (2008:17) that technology can be used to facilitate the learning and evaluation process when designed according to the needs of users. So that the researcher feels confident to solve the problems mentioned above using or utilizing technology in the assessment of the seven habits of great Indonesian children.

The design of the SIHEBAT platform is compiled based on data on needs in the field and formulated through the design of an assessment data structure, interface design (UI), as well as storyboards and platform navigation flows. Similarly, as stated by Haikal and friends (2024:1), the design is developed based on needs in the field. This supports the theory from Dick & Carey (2009:6-7) that emphasizes the importance of learner-centered design in the development of instructional systems, so that the medium can be used effectively by the target user. So the researcher believes that making a mature design at the design stage by paying attention to the needs in the field will help make it easier to create a product for the assessment of the seven habits of Indonesian children that are as good as expected.

Product testing is a crucial part of the Design and Development development model (Richey & Klein, 2007), as this stage serves to evaluate the feasibility and quality of the product from the perspective of experts and direct users. This interpretation is in line with the research of Haikal and friends (2024) which shows that the improvement of digital content based on user and expert feedback can significantly increase the effectiveness of digital learning platforms.

Based on the description above, the researcher agrees that in the development of a product, expert consideration or assessment and a high level of acceptance from users are needed so that the product produced can be used in accordance with the main purpose of product development.

The implementation of SIHEBAT Digital in elementary schools requires the identification of user needs in the context here, namely educators as active users as the basis for system design in accordance with the principles of userneedsbased development (Borg & Gall, 2003, pp. 556–567; Haikal et al., 2024). The design of interfaces, digital assessment instruments, and reporting mechanisms was formed through iterations of expert review and formative evaluation, as recommended by Tessmer (1993:47-137). This concept is in line with the basic theory of learnercentred design which emphasizes user involvement in every stage of instructional development (Dick & Carey, 2009).

Platform validation by media expert validators and subject matter expert validators showed an increase from the initial assessment results to the revised results. Initially, the platform's content domain was rated "less feasible", but after revision based on input, the results of the second test showed a "feasible" interpretation. As for the construction domain, it increased from "feasible" to "very feasible". Meanwhile, the material validation received a "very decent" rating from the start. This condition shows that the application of the principle of formative

evaluation in media development (Tessmer, 1993:137) has been carried out well, namely through repeated revision stages based on expert input, until a product that meets the quality criteria is produced.

This feasibility also indicates that the platform has met the principles of user-oriented development, as suggested in the needs-based development research by Borg & Gall (2003). This means that platforms that are developed iteratively and based on user input have high potential to be implemented in real practice in schools.

Based on the description above regarding evaluation steps in product development, the researcher also argues and believes that a product that is developed needs to be evaluated as a whole by an expert validator and user assessment with the aim that the product can be used and functioned as expected.

Overall, the results of this study show that the development of the SIHEBAT assessment platform as a medium or tool for assessing the seven habits of great Indonesian children has answered the real needs in the field. The development process based on the D&D model, iterative validation, and the application of formative evaluation principles and a user-centered approach has resulted in a product that is viable and very well received by educators (users).

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Based on the results of the research with the design using the Design and Development (D&D) model which has been carried out through the stages of identifying the problem, defining the objectives (describe the objectives), designing and developing the product (design and develop the artifact), test the product (test the artifact), evaluate the product test results, and communicating the test results (communicating the testing result). The following conclusions were obtained:

- 1) At the stage of analysis of the results of observations in the field, gaps were found that resulted in problems, namely educators had difficulty in assessing the seven habits of great Indonesian children. This is because the seven habits of great Indonesian children are characteristics that are difficult to measure because they have a high level of subjectivity, do not have a standard format, do not have a standardized measurement and clear criteria, do not have assessment standards, evaluation standards and standard report form forms of assessment results of the seven habits of great Indonesian children. Focusing on the problems mentioned above, it concludes that the results of the needs analysis in the field show that educators need a tool or media that can help assess the seven habits of great Indonesian children that are easy, effective, and digitally documented.
- 2) In the design stage of the digital SIHEBAT assessment platform, it succeeded in producing a conceptual and visual framework of an assessment platform called "SIHEBAT" digital which includes the design of the assessment data structure, the design of the platform's use flow, the design of the user interface, the selection of the technology used, the creation of flowcharts and storyboards. All of these components are designed comprehensively to suit the needs of users who can support the systematic and structured assessment of the seven habits of great Indonesian children.
- 3) At the development stage, SIHEBAT digital has succeeded in realizing an assessment tool or media in the form of an assessment platform to help solve problems related to the assessment of the seven habits of great Indonesian children at the elementary school level. The final product is developed based on the initial prototype and feasibility testing results of media experts, subject matter experts, and user acceptance levels.
- 4) At the product implementation stage, it has successfully conducted tests to experts and potential users. At this stage, the final product is produced as a result of revision sourced from the input of experts and potential users.
- 5) At the evaluation stage of the product developed based on the results of testing, suggestions, and inputs from media experts, material experts, and users, the results of the feasibility test were obtained with interpretation suitable for use and obtained a very high level of acceptance from users.

In general, this study proves that the digital SIHEBAT assessment platform is an innovation and success in the development of a special character assessment tool for the seven habits of great Indonesian children that is able to answer the problem of difficulties in conducting a special character assessment of the seven habits of great Indonesian children in elementary school, especially at SDN 2 Sukamurni, Cilawu District, Garut Regency.

Recommendations

This great platform is not perfect; many things must be improved and developed for perfection in its use. Both in terms of assessment criteria, user interface, or programming. The following are some suggestions or recommendations for parties who feel that they are related to the development of an assessment platform for the seven habits of great Indonesian children. The parties in question include:

1) For educators

Conduct a special character assessment of seven great Indonesian children's habits by taking advantage of technological advances. On this occasion, the researcher recommends creating an assessment platform by utilizing google sites, google sheets, google app scripts, and hypertext markup language (html).

2) For Schools

Use the digital SIHEBAT platform as part of the formative assessment of students' character and reflection and invite parents of students to periodically view digital reports containing information on children's character development in particular the seven habits of great Indonesian children.

3) For further research

Conduct longitudinal research to monitor the impact of SIHEBAT on long-term character development or also create similar apps or assessment platforms by utilizing lighter applications such as web apps to make it easier for users who use low-spec devices.

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Declaration

I, as a solo author, accept the following statement regarding compliance with ethical standards and standards of research involving humans: "All procedures undertaken in research involving human participants are in accordance with the ethical standards of institutional and/or national research committees and with the 1964 Declaration of Helsinki and subsequent amendments or comparable ethical standards." "Informed consent is obtained from the participants"

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