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DEVELOPING A DIGITAL CIVICS ENCYCLOPEDIA TO CULTIVATE 3RD GRADE OF ELEMENTARY SCHOOL STTUDENTS' RESPOSIBILITY

Estela Werwin Verananda
State University of Jakarta, Indonesia
email

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ABSTRACT

Background: One of the government's efforts to instill an attitude of responsibility to citizens in exercising their rights and obligations is to equip learners through classroom learning. One of the subjects that can pedagogically support social values related to the introduction of attitudes of responsibility in exercising rights and obligations is VAT.
Aim: The researcher aims to develop the existing digital Civics encyclopedia for Grade 3rd students of Elementary School.
Method: The method used in this research is Research and Development (R&D).
Findings: Based on the results of an analysis of the student small group trial indicators, no revisions or improvements were made because the indicators with the lowest scores were in the category enough. Therefore, the last stage of the trial was a large group trial that produced a score of 84.09%. After going through several stages of trials, the application of digital encyclopedia of PPKn learning is ready to be implemented for learning by grade III students to instill an attitude of responsibility through the material obligations and rights in the home, school, and community.

KEYWORDS

Digital, Civics encyclopedia, elementary school, responsibility

INTRODUCTION

Basically, humans are social creatures who need each other. As social beings, humans have an obligation to meet the personal needs and needs of others. In meeting each other's needs, human beings must have an awareness of their own responsibilities. Without responsibility, human needs cannot be met properly.(Inah, 2013)

Responsibility in general is the full awareness that is owned by humans in performing every task given to him whether regarding personal interests, the environment, and the surrounding community. Lickona states in her book that one of the purposes of responsibility is to practice the skill of socializing. The purpose means that everyone both in the life of the community and those involved in the activities of certain agencies or organizations must have an attitude of responsibility.(2012)

One of the government's efforts to instill an attitude of responsibility to citizens in exercising their rights and obligations is to equip learners through classroom learning. One of the subjects that can pedagogically support social values related to the introduction of attitudes of responsibility in carrying out rights and obligations is PPKn. PPKn or Pancasila Education and Citizenship in the 2013 curriculum structure in SD / MI is one of eight subjects that must be applied to learners.

In the Opening of the 1945 Constitution paragraph 4, Law No. 20 of 2003 concerning the National Education System (article 3; article 4; article 37 (paragraph 1); and article 38), and

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Indonesian Parliament No. 19 of 2005 on the National Education System, including social-pedagogical mandates, namely the cultivation of citizenship knowledge, the establishment of democratic and responsible social personalities, and increasing social awareness of status, rights, and obligations in the life of society, nation, and state. The mandate means that VAT is needed for all learners to become a tool for the formation and cultivation of knowledge about state institutions. (Poerwati, 2013)

In grade III elementary school, the cultivation of an attitude of responsibility is an obligation. The cultivation of a responsible attitude is one of the competencies that must be met. The basic competence that is intended is the achievement of knowledge and the implementation of obligations and rights as citizens in everyday life. The material of obligations and entitlements can be found in the student book of the 2013 curriculum on Theme 4 of My Rights and Obligations, and Theme 6 of Energy and Change there. The learning presented in some of these themes aims to introduce to class III learners that attitudes of responsibility are needed in the family, school, and community environment. With these competencies, learning must be effectively designed so that the planting of material obligations and the right to instill an attitude of responsibility in learners can be carried out properly.

One indicator of a lack of student responsibility attitude is no or lack of awareness to learn and perform the tasks given by the teacher well. That is, learners who show some of these indicators can be categorized as not or less responsible. In dinia Ulfa's thesis entitled "Increasing Learning Responsibility with Self-Management Based Individual Counseling Services in Class XI Students in SmK Negeri 1 Pemalang Year of Study 2013/2014", it is noted that students who are less responsible will show the characteristics of not doing learning tasks with ruitn, not doing their own tasks with pleasure, and less interest in persevere in learning. This means that the attitude of responsibility can be in the learners can be indicated through the way learners treat the tasks given by teachers in each learning. (Ulfa, 2014)

In observing the learning process of grade III students at SDN Karet 01 Am, it is indicated that the lack of responsible attitude recorded has been shown. Lack of responsibility is found during the course of PKM or Teaching Skills Practice in the elementary school. During distance learning (PJJ), students tend to rely on parents in doing every task given by the teacher and do not actively follow the learning. In addition, students also do copying or plagiarism in doing tasks. This is evidenced by the results of the work on the task that shows that most learners have answers identical to those on the internet. Thus, it can be stated that grade III students lack a good attitude of responsibility as students.(Verananda, 2020)

In addition to observations on the learning process of students of class III SDN Karet 01 Am, the results of interviews with classroom guardians showed that the learning resources used by students of class III SDN Karet 01 Pagi have not been in accordance with distance learning needs. Students use books published by the Ministry of Education and Culture of the Republic of Indonesia in 2017. The book basically suits the needs of face-to-face learning, but is not appropriate for distance learning. The instructions and activities in the book are intended for classroom learning. This is contrary to the situation of students at SDN Karet 01 Pagi who are still carrying out distance learning. In addition, students are only directed to do each exercise in the book independently without any media or other supporting learning resources that are in accordance with distance learning needs. With that, it can be stated that teachers have not

utilized digital learning resources that contain materials that can complement the learner handbook (Verananda, 2020).

Digital learning resources are generally very diverse. Some of them are in the form of images, audio, video, and text that are available virtually on the internet. Subject matter in digital learning resources is often more interesting than print learning resources. Several studies on digital learning resources prove this. First, in 2014 a study by the American Research Institute for Policy Development showed that most students use digital learning resources because they provide some advantages more than conventional or printed learning resources, namely ease of access, affordable prices, and practical use (Adheel, 2014). That is, digital learning resources show excellence in ease of access and affordability of purchase prices for students.

Second, in 2019, the national seminar on graduate education program of PGRI Palembang University said that digital learning resources have many advantages, namely more practical and easy to carry, more environmentally friendly, cheaper, more durable, minimize the use of storage space, and easily accessible (Ruddamayanti, 2019). Some of these advantages complement the advantages of digital learning resources in previous research. Third, in 2019 a descriptive qualitative research result in putri Dwi Jayanti thesis showed that the application of learning connected to digital access was proven to improve attitudes and insights in material exploration (Jayanti, 2019). In the study, it was noted that the professionalism of learning was very lacking because teachers used printed handbooks that were not supported by digital learning resources or internet access.

Based on some of the advantages noted inthe study, it can be stated that digital learning resources can be one of the tools for learners in carrying out distance learning that is useful for the cultivation of the attitude of responsibility of grade III students in this study. Thus, it was found that one of the proven sources of digital learning in some research and development results provided benefits for students is the digital encyclopedia.

A digital encyclopedia is a practical application and contains material that is more complete than a conventional or printed encyclopedia (Agustin & Ambarwati, 2019). Its main benefits are as a means of basic information, exploration of knowledge, and means of examining the truth of information about findings, objects, and others. This means that digital encyclopedias can be an additional source of learning for students.

Digital encyclopedias and prints basically have something in common in the form of presenting their information. The similarity can be seen from the systematic and alphabetical arrangement of matter. Generally the information provided in digital and printed encyclopedias in the form of a set of lists of terms and categories that are briefly and alphabetically provided to make it easier for the reader to explore the material he wants (Rahmah, 2015).

As an additional learning resource, digital encyclopedias require more interesting, easy-to-understand, and customized content to student characteristics so that attitudes of responsibility through matter of obligation and rights can be properly instilled. That is, an update is needed based on research and development that has been done before. The novelty or excellence of the digital encyclopedia of PPKn learning to instill the attitude of responsibility of elementary school grade III students in this study compared to previous research is its more practical and interesting use.

Obtained some research that became the basis of the development of this digital encyclopedia product. First, in 2015 research has been conducted in Yogyakarta with the title "Design and Implementation of Mobile Application Encyclopedia and Simulation Gamelan Kraton Yogyakarta Based Android Operating System". Second, in 2019 research has been conducted by Ririn Dwi Agustin and Mika Ambarawati with the title "Mathematic Encylopedia Media as Android Based Learning" at IKIP Budi Utomo, Malang Indonesia. Similarities between the two studies and the development in this study are the products in the form of digital encyclopedias, the use of images as supporting objects for the material presented, and the exposure of material using text.

Based on some similarities in the two studies, researchers were interested in developing and renewing the product by adding images with animations of grade III elementary school age character and shorter text, but still paid attention to the essence of the category-based encyclopedia. By adding short text and de-digitalized animated images, the main benefits of digitization can be realized, i.e. effective, interesting, and practical.

The development of the Digital Encyclopedia of PPKn Learning to Instill The Attitude of Responsibility of Students Class III Elementary School is done by loading VAT material that is a systematic obligation and right in the form of short text and animated images in the hope that the attitude of student responsibility in SDN Karet 01 Pagi can be instilled so that it becomes better in carrying out distance learning, and in everyday life in the community and at home.

METHOD

The method used in this study is Research and Development (R&D). Research and Development (R&D) is a development model that uses design and procedures systematically to achieve product effectiveness and quality. According to Sugiyono, research and development is a research method used to produce a particular product and test the effectiveness of that product (Sugiyono, 2012). In producing a product and testing its effectiveness, the development of a product must go through different test stages according to the methods used in its manufacture.

In the research and development of the Digital Encyclopedia of PPKn Learning to Instill the Attitude of Responsibility of Class III Elementary School Students, the research method used is Research and Development (R&D) by developing hannafin and peck development models. Here's a product development image by Hannafin & Peck.

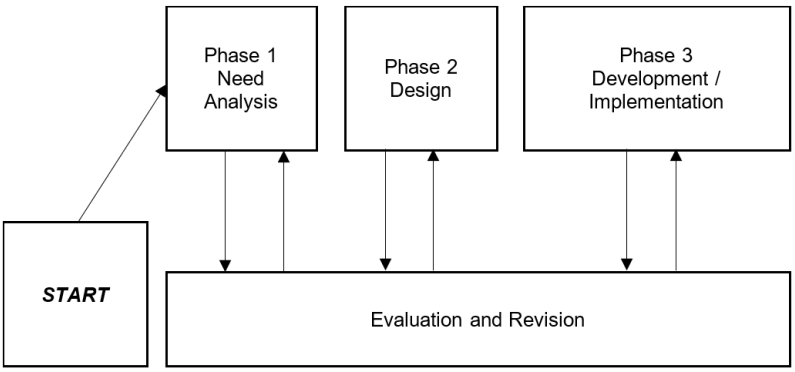


Figure 3.1: R&D Steps by Hannafin & Peck

Place and Time of Research

Research and product development of PPkn Digital Encyclopedia of Learning to Instill The Attitude of Responsibility of Elementary School Class III Students was held at SDN Karet 01 Am which is located at Jl. Karet Belakang No.2 RT 013, RW 03 South Jakarta City, Rubber Village, Budi Subdistrict, DKI Jakarta-12910. The study was conducted from October 2020 to May 2021.

Research Respondents

In this research and development, the target of the research or respondents is a grade III student of SDN Karet 01 Pagi elementary school which numbers 26 students.

Research Instruments

The research instrument used as a measuring tool for research and development against the PPkn Digital Encyclopedia of Learning to Instill Attitudes of Responsibility of Elementary School Class III Students is a questionnaire distributed virtually in SDN Karet 01 Pagi with the help of a classroom guardian.

In addition, observation is carried out by reviewing and tracing the learning process and using media in it virtually. In addition, to complete the data collection, validation is carried out by linguists, media experts, and material experts through the dissemination of questionnaires.

RESULTS AND DISCUSSION

Student Needs Analysis Phase

In an effort to analyze the needs of learners, the stage of filling out questionnaires by learners online. It aims to know and identify the attitude of responsibility of class III learners in everyday life. Here is a percentage table that shows the category of attitudes of class III students.

Table 1. Student Attitude Percentage Results

Category	Value	Frequency	Percentage
Very responsible	86 – 100	1	3,85%
Responsible	70 – 85	11	42,3%
Responsible enough	61 – 69	13	50%
Less Responsible	45 – 60	1	3,85%
Very Less Responsible	0 – 44	-	-
Sum		N=26	P=100%

In table 1 it can be known that there are 3.85% of class III learners who are in the category of very good, 11% in the good category, 13% in the category is quite good, and 1% in the category is not good. That is, the attitude of responsibility of students class III SDN Karet 01 Pagi is quite good, but in general learners are still under the category of good in carrying out responsibilities. If an analysis of 12 statements in the questionnaire is based on each indicator, the following data obtained.

Table 2. Results of Analysis of Indicators of Student Attitude Needs

Responsibility Attitude Indicators	Percentage Answer	Sum Student	Category
Carrying out obligations with all your heart	54,80 %	17 students	Enough
Dare to bear consequences	56,73%	18 students	Enough
Having self-control from bad actions	39,42%	12 students	Less
Have goals and plan for the future	17,30%%	6 students	Very Lacking
Be enthusiastic, honest, generous, and optimistic in the face of all problems	55,76%	17 students	Enough
Independent in doing various things	51,92%	14 students	Less
Proactive in doing everything	52,88%	16 students	Enough
Diligently doing the task	51,92%	16 students	Enough
Dare to correct self-errors	70,19%	21 students	Good
Dare to bear the consequences of mistakes against others	15,38%	5 students	Very Lacking
Don't blame anyone else for the problem.	49,03%	14 students	Less
Trying to improve things and not run away from what they do	28,84%%	9 students	Very Lacking
Sum	P=100%	N=26 Students	

Table 2 shows that not all students respond with the highest scores on each of their indicators so each indicator of attitude of responsibility missed by students is in the range well to very less. The category in this analysis is the range obtained from the calculation of several students with the overall number of students in class III which is 26 students. The results of this analysis became the main reference in this study to develop a digital encyclopedia product that contains material obligations and rights for learners as family members, students, and communities.

Design Phase

Product Purpose Formulation Design

In an effort to formulate product manufacturing goals, researchers identify and analyze the basic competencies of VAT learning that correspond to the material contained in the product. The competence identified is that learners must understand the implementation of obligations and rights as citizens and carry them out in daily life.

Based on the competencies obtained, the purpose of making a digital encyclopedia product of PPKn learning is, namely (1) Mto provide material obligations and rights for grade III students and (2) Mto name the attitude of responsibility in gradeIII elementary school students through

materials of obligations and rights in the home, school, and community. Thus, the goal to be achieved is the first step in creating an application that can be adapted to the student's ability to use his product.

Design Identification of Student Abilities

Identifying students' ability to use digital products is one of the most crucial design steps because thus product development will be adapted to the initial behavior of students. In an effort to determine students' ability to use digital devices, researchers made observations of students' learning processes during distance learning. Grade III students have become accustomed to using mobile phones to follow the learning process so that digital products that become one of the learning resources can be used quite well.

Based on the results of observations of student learning during distance learning, the initial design in digital products developed in this study is made simple but attractive to learners. Thus, students can learn easily without difficulty in their use.

Material Preparation Design

In the preparation of obligations and rights materials, researchers mapping teacher books and student books published by the Ministry of Education and Culture of the Republic of Indonesia are commonly used by learners in face-to-face and distance learning.

Based on the mapping carried out, the material is arranged in accordance with the needs of learners in understanding the implementation of their obligations and rights both at home, school, and community. Here is a mapping of the material contained in the digital encyclopedia of PPKn learning.

Table3. Mapping Materials in a Digital Encyclopedia

Subject Matter	The description of Material
Obligations at home	1. Say goodbye before leaving the house or traveling; 2. Washing cutlery after finishing eating; 3. Greetings when returning home; 4. Get the bed cleaned after waking up; 5. Help parents clean their homes or rooms; 6. Assisting parents in their work; 7. Share with relatives and family; 8. Assisting you in doing homework and school or when you are in trouble; 9. Worship based on the religion embraced; 10. Respect for parents; 11. Love your family and relatives; 12. Telling parents about activities at school or difficult learning; 13. Eat a healthy and nutritious diet; 14. Lifting clothes from clotheslines; 15. Adequate rest; 16. Exercise;
Right at Home	1. Loved by father and mother; 2. Treated by verse and mother; 3. Can tell stories to mom and dad; 4. Getting the attention of father and mother while studying; 5. Getting help from mom and dad when it's difficult;

	6. Get the required items and items from parents; 7. Rest; 8. Have a healthy body; 9. Get a healthy diet; 10. Eat food provided by parents; 11. Get clean and healthy drinking water; 12. Stay at home; 13. Loved, cared for, protected, and appreciated; 14. Treated while sick; 15. Living in a clean house; 16. Playing with friends and family;
Obligations at school	1. Wearing neat and clean clothes; 2. Make good friends despite different religions, tribes, and cultures; 3. Treat friends kindly and kindly; 4. Study well at home; 5. Listen well to the teacher's explanation; 6. Reading books; 7. Share with friends; 8. Helping friends who have difficulty learning; 9. Actively attend school and do not skip; 10. Honing talents with friends; 11. Maintaining school cleanliness and class neatness; 12. Taking care of plants at school; 13. Dispose of garbage in its place; 14. Washing dirty hands; 15. Exercise; 16. Following the ceremony;
Rights in School	1. Playing with friends; 2. Being a smart kid; 3. Buying healthy snacks; 4. Study in a clean classroom; 5. Be friends with anyone; 6. Ask the teacher about difficult-to-understand learning; 7. Submit complaints or opinions to teachers and friends; 8. Gaining skills such as playing musical instruments, singing, etc.; 9. Attend a healthy school; 10. Get a place to wash your hands;
Obligations in society	1. Be a good and friendly neighbor; 2. Know the neighbors and people who live around the house; 3. Respect for neighbors; 4. Welcome new neighbors well; 5. Helping neighbors who are in trouble; 6. Sharing with neighbors; 7. Keep the home environment clean; 8. Greeting neighbors; 9. Provide a cage for pets and take good care of them; 10. Comforting grieving neighbors; 11. Being a healthy and strong child for the country; 12. Plant trees for a comfortable environment; 13. Processing waste in the home environment; 14. Practice religious teachings and tolerate other religions; 15. Save electricity at home;
Rights in society	1. Have good and polite neighbors;

	2. Appreciated by neighbors; 3. Treated fairly by neighbors; 4. Living near neighbors who clean their neighborhoods; 5. Living near deadlines whose pets do not disturb and damage the environment in which we live; 6. Go to school; 7. Worship in a place of worship; 8. Treatment; 9. Using public roads; 10. Carrying out cultural activities; 11. Using public facilities provided by the government; 12. Using electricity at home; 13. Open a business to earn a living;

Storyboard Design

In an effort to compile a storyboard, researchers conducted a visual preparation of content contained in the digital encyclopedia application, namely images and text that became the content of the application for grade III students.

Table 4. Storyboard Digital Encyclopedia Application

Scene	Visual	Picture	Link Scene	Information
Opening Screen	Application Name	Logo of Jakarta State University (UNJ)	Main page	Contains the name of the application, namely the digital encyclopedia of PPKn learning
Home Page	Category Application	Application menu logos and animated images of children in the exercise of obligations and rights	6 Categories of Materials; Basic Competencies; Purpose of application; Instructions; Student Evaluation; About the Application;	It is the main page that connects with the other pages in it.
Basic Competence (KD)	Competence	Competency menu logo	Home Page	This page contains basic competencies in VAT learning for liability and rights materials
Application Purpose	Application Purpose	App destination menu logo	Main page	This page contains the purpose of creating applications for grade III elementary school students
Student Evaluation	Student Evaluation	Student evaluation menu logo	Home Page	This page contains some of the questions that students evaluate after using the application.

About Apps		Menu logo about apps	Home Page	This page contains text about the identity of the application briefly
Obligations at home	Obligations at home	Animated images of the implementation of obligations at home	Home Page and liability materials at home	This page contains a collection of images and text about examples of the implementation of obligations at home
Obligations at school	Obligations at school	Animated images of the implementation of obligations in school	The main page and material obligations in school	This page contains a collection of images and text about examples of the implementation of obligations in schools
Obligations in society	Obligations in society	Animated images of the implementation of obligations in the community	The main page and material obligations in society	This page contains a collection of images and text about examples of the implementation of obligations in the community.
Right at Home	Right at Home	Animated images of the exercise of rights at home	The main page and Material rights at home	This page contains a collection of images and text about examples of exercising rights at home
Rights in School	Rights in School	Animated images of the exercise of rights in schools	The main page and Material rights at school	This page contains a collection of images and text about examples of the exercise of rights in schools
Rights in society	Rights in society	Animated images of the exercise of rights in the community	The main page and Material rights in society	This page contains a collection of images and text about examples of the exercise of rights in the community.

In table 4 of the storyboard of the digital encyclopedia application, several scenes (screens) or pages are designed in the development product. Thus, the design phase can be continued in the development phase in the manufacture of its products into a complete application.

Development and Implementation Phase

The product development and implementation phase is the last phase of the development model by Hannafin &Peck. In this phase, some of the activities carried out are (1) create media displays in digital encyclopedias (video, audio, text, images), (2) Create and fill menu content in the application, (3) Download or Install digital encyclopedias, and (4) Eormative valuations including expert review, one to one learner trials, small group trials, and field trials. Here's the description in the development phase that was done.

1) Create a Media View

   In an effort to create a media display, researchers collected several animated cartoon images that showed various activities in carrying out obligations and rights. The collection of images is obtained from the internet with the inclusion of the source of the shooting to avoid copyright infringement.

The selected images consist of 16 images of obligations at home, 16 rights of obligations in schools, 16 images of obligations in the community, 10 images of rights in schools, 15 obligations in the community, and 13 rights in the community. The images are selected according to text that supports examples of the implementation of obligations and rights to fit the development of characteristics of grade III students interested in visuals and animation.

In addition to image media, text is also part of the material content prepared in this stage. The prepared text is a brief explanation of how the implementation of obligations and rights that must be carried out by students in accordance with their basic competencies.

2) Create and Fill Menu Content

After collecting several images that suit the material needs of obligations and rights, researchers perform the stages of creating applications and submit material files to *programmers* who are professional and experienced in creating applications that can be downloaded on mobile phones. The menus in the application are designed based on the categories of material so that the contents are in accordance with the rules of the encyclopedia which is an additional learning source known to contain various information loaded by alphabet or certain categories.

3) Download or Install Apps

After creating a display of media and text that is encyclopedia material, the next stage is to download application files that can be searched on a mobile phone to see the results of making it. In this stage, *programmers* can *update* in case of revisions in either view that includes text, images, category laying, and others related to the page or menu *scene.*

4) Testing an App

The application trial stage is a crucial stage because researchers must pass the validation stage by expert review experts who are experts in the field of media, language, and materials. These three experts conduct searches and assessments of applications that have been created based on assessment indicators in the questionnaire. This validation stage is done *online* so that experts download the application on their respective phones to see firsthand the digital encyclopedia application.

Evaluation and Revision Phase

The evaluation and revision phase is the stage where product validation and application trials on learners begin to be carried out. At this stage product validation is first done by media experts, followed by material experts, and linguists. This validation is the first stage or step before the application is tested to learners. Therefore, this stage consists of, namely (1) Evaluation from expert review and (2) Eformative valuation by students. Here are the stages of evaluation and revision in the development of digital encyclopedia products.

Evaluation by expert

1) Media Expert Validation

Expert lecturers involved in the media validation process are Prof. Dr. Syarif Sumantri, M.Pd as lecturer in Elementary School Teacher Education (PGSD), Faculty

of Education (FIP), Jakarta State University on May 2, 2021. Here are the results of validation by media experts on the application of the VAT learning encyclopedia with material obligations and rights.

Table 5. Media Expert Validation Results

No.	Assessment Aspects	Percentage of Assessment Aspects
1.	Digital encyclopedias contain digital images and text	80%
2.	Digital encyclopedias contain information in modern digital displays	80%
3.	Digital encyclopedias reduce the use of paper in their use	100%
4.	Digital encyclopedias are accessible and practical	80%
5.	The look of the digital encyclopedia is interesting and modern	80%
6.	The display of images and text in the digital encyclopedia attracts enthusiasm	100%
7.	Digital encyclopedias include images and text media with content designs that are suitable for learners.	80%
8.	Images and text in digital encyclopedias are clearly visible	80%
9.	Letter size or typography in a digital encyclopedia according to the characteristics of grade III elementary school students	100%
10.	Images in the digital encyclopedia correspond to the characteristics of grade III elementary school students	80%
Total Percentage of Media Ratings		**86%**

In table 5 obtained validation results by media experts who showed that in the various aspects of observation of media, the percentage obtained is 86% so that based on the product feasibility table, media in digital encyclopedias can be categorized as meeting the feasibility aspect / very well.

2) Validation of Material Experts

Expert lecturers involved in the material validation process are Dr. Otib Satibi, M.Pd as lecturer in Elementary School Teacher Education (PGSD), Faculty of Education (FIP), Jakarta State University in May 2021. Here are the results of validation by material experts on the application of the VAT learning encyclopedia with material obligations and rights.

Table 6. Material Expert Validation Results

No.	Assessment Aspects	Percentage of Assessment Aspects
1.	The material rights and obligations presented in accordance with the mandate demands of the 1945 Indonesian Constitution are concerning the establishment of responsibilities as Indonesian citizens.	80%

2.	Material rights and obligations can support the attitude of responsibility of grade III elementary school students.	80%
3.	Material rights and obligations in accordance with applicable basic competencies.	100%
4.	Material rights and obligations in accordance with the 2013 curriculum applicable in elementary schools.	80%
5.	The material rights and obligations presented are complete and in accordance with the needs of grade III elementary school students.	80%
6.	Material rights and obligations can encourage grade III elementary school students to improve their attitude of accountability.	80%
7.	The material rights and obligations presented show the obligations that must be carried out by learners.	80%
8.	The material rights and obligations presented display responsibility in acting consciously.	80%
9.	Material rights and obligations present a responsibility to accept the consequences and responsibilities in carrying out something.	80%
10.	Material rights and obligations presenting responsibility in achieving good results must be done with collaboration.	80%
11.	Material rights and obligations present responsibility in self-control in the common interest.	100%
12.	Material rights and obligations present responsibility in planning for a better future in the work at their disposal.	100%
13.	Material rights and obligations present the responsibility to bear the risks made by oneself without the help of others.	80%
14.	Material rights and obligations present responsibility in carrying out tasks proactively without waiting for orders from others.	80%
15.	Material rights and obligations present a responsibility to correct one's own mistakes and be reflective.	80%
16.	Material rights and obligations bring insights for grade III elementary school students about responsibilities.	100%
17.	Material rights and obligations in accordance with pedagogical rules and social values.	100%
18.	Media displayed in accordance with material rights and obligations.	80%
	Total Percentage of Material Assessment	**85,56%**

In Table 6 obtained validation results by material experts who showed that in various aspects of observation of the material, the percentage obtained is 85.56% so that based on the product feasibility table, the material in the digital encyclopedia can be categorized as meeting the feasibility aspect.

3) Linguist Validation

Expert lecturers involved in the language validation process are Dr. Edi Puryanto, S.Pd., M.Pd. as lecturer of the Faculty of Education (FIP), Jakarta State University on May 2, 2021. Here are the results of validation by linguists on the application of the VAT learning encyclopedia with material obligations and rights.

Table 7. Material Expert Validation Results

No.	Assessment Aspects	Percentage of Assessment Aspects
1.	The language used is the standard language according to the rules of Indonesian	100%
2.	Sentences arranged in text and information are clear and concise	100%
3.	Sentences presented straightforwardly in accordance with the characteristics of grade III elementary students	80%
4.	Sentences presented are easy to understand and not technical or complicated.	80%
5.	The language used according to the characteristics of grade III elementary students	100%
6.	Text sizes are appropriate to display for grade III elementary students	80%
7.	Typefaces used in text in accordance with the krakteristic of grade III elementary students	100%
8.	The text displayed supports the image media displayed	100%
9.	The text displayed is persuasive in teaching grade III students to carry out their obligations and obtain their rights at home, school, and in the community.	80%
10.	The text displayed describes the media appropriately	80%
11.	The language used supports or corresponds to the image media displayed	100%
12.	Sentences written in each section of the category are aligned with each other	80%
13.	The text presented is in accordance with the material delivered and is educational.	100%
Total Percentage of Language Assessments		**90,76%**

In table 7 obtained validation results by linguists who showed that in various aspects of observation of the language, the percentage obtained is 90.76% so based on the product feasibility table, aspects of the language in the digital encyclopedia can be categorized as meeting the eligibility aspect very well. Some revisions made based on advice and input by media and language experts are as follows.

Table 8. Expert Advice and Input

Name validator/ linguist	Suggestions and Feedback
Prof. Dr. Syarif Sumantri, M.Pd	1. Add text about the purpose of the application in it; 2. Add app usage instructions;

	3. Add text for student evaluation of at least 1 problem for 1 material as student reflection; 4. Add the basic competency text of the 2013 curriculum regarding material contained in the digital encyclopedia application;
Dr. Edi Puryanto, S.Pd., M.Pd	1. Look again at the proper use of word choices/ diction; 2. Pay attention to the use of spelling and punctuation; 3. Pay attention to the effective use of sentences;

The development of the digital encyclopedia of PPKn learning is carried out based on the problems that occur in SDN Karet 01 Pagi, one of which is the attitude of responsibility. The lack of attitude of responsibility is based on one factor, namely the implementation of distance learning (PJJ) that has never been experienced by students before. Therefore, researchers strive to develop digital learning resources that match the learning characteristics of grade III elementary school students.

Based on interviews conducted with teachers of class III SDN Karet 01 Pagi on September 2, 2020, it was found that distance learning is quite difficult for teachers and students in carrying out teaching-learning activities. The problem faced by one of them is the use of learning resources that have not been managed in accordance with distance learning needs. Grade III students still use learning resources whose instruction refers to the implementation of face-to-face learning in the classroom. Teachers have also not implemented and provided additional digital-based learning resources for students to learn during pandemic times. In response, researchers developed additional digital learning resources that are in accordance with the learning needs of grade III students. An additional learning resource developed by researchers is the digital encyclopedia of VAT learning. This product refers to relevant research conducted earlier. First, in 2019 Ririn and Mika's research from IKIP Budi Utomo, Malang Indonesia entitled Mathematics Encylopedia Media as Android Based Learning produced a development product in the form of an android-based mathematics encyclopedia. The product received validation results by experts with very decent categories. The results of the trial showed the interest of students in learning to use digital encyclopedias because it can be easily used and used for distance learning.(Agustin & Ambarwati, 2019)

Second, research by Devianda Kurniawan and its members in 2012 entitled Design The Application of Riau Malay Cultural Encyclopedia Based on Android which produces products in the form of digital encyclopedias based on the results of criritteria validation is very feasible to apply to students. Based on the results of trials of its users, this encyclopedia proved to be very effective and efficient in facilitating the search for materials and adding knowledge about Riau Malay culture to students. Third, research and development (R&D) by Liliana and its members in 2013 entitled The World's Digital Encyclopedia of Countries for Children produces an encyclopedia product that can help students learn less understood material while doing learning through printed books. In other words, students gain additional knowledge through the use of such encyclopedia applications with easy access. Therefore, this research provides learning advancement for students as they can access these apps at a cheaper cost with reliable sources.(Kurniawan et al., 2012)(Liliana et al., 2013)

Based on some of the research and development of digital encyclopedias that have been implemented, there are several similarities shown with the development of the digital encyclopedia of VAT learning in this research. Similarities are the media base used that is images and text, easy and affordable access, meets the category as an additional learning resource, and can be accessed via mobile phone or smartphone with android technology base. In addition, the difference lies in the description of the material, media, and menu. In the material description, this VAT learning digital encyclopedia displays shorter, non-technical text exposure. In media, the image used is a collection of animations that are descriptive because they describe the text of the material displayed. In the appearance of the menu, this digital encyclopedia is made with more attention to color selection that can attract students in learning. Some of these differences are made based on the needs of students of grade III SDN Karet 01 Am and the basis of curriculum competence 2013. It is also an advantage that is shared by the digital encyclopedia of VAT learning.

This digital encyclopedia contains PPKn material regarding the obligations and rights of elementary school students. The use of color, the preparation of material categories, and the text displayed are also tailored to the stage of development of grade III-age students in the hope that learning goals can be achieved properly. The final format of this product is apk. This format can allow students to access learning materials in it through mobile phones. The reference of the material based on the 2013 curriculum with basic competencies 3.2 and 4.2 is to understand and carry out obligations and rights as citizens in the life of the community which in its mapping is included in Theme 4 Rights and Obligations and Theme 6 Energy and Change.

With this reference, the method used is Hannafin and Peck which go through 3 stages, namely the analysis of needs conducted through interviews and filling out questionnaires to identify the attitude of responsibility of class III learners in everyday life. The next stage is the design that defines and formulates learning, the storyboard of the digital encyclopedia application developed for use by students during distance learning. After that, the third stage is the development and implementation carried out to create product development and validation of feasibility by experts, namely media experts, linguists, and material experts to be tested and applied to students. The feasibility of the product is expressed very high through validation activities carried out. Therefore, the application of trials can be applied to grade III elementary school students.

The use of the digital encyclopedia of PPKn learning proved to be one of the solutions to the problems faced in the field, namely the lack of attitude of responsibility of grade III students at SDN Karet 01 Pagi. Based on research conducted by the American Institute for Policy Development, it is stated that digital learning resources have many advantages, namely practical and easy to carry, environmentally friendly, and easily accessible. This is in line with the purpose of using the encyclopedia for grade III students.

The digital encyclopedia of PPKn learning which is a source of digital learning can help overcome one of the problems of student attitude in carrying out distance learning that is still lacking or not good. This is supported by one of the descriptive qualitative studies of 2019 which states that learning connected to digital access can basically improve attitudes and insights. In addition, digital encyclopedias have other advantages over conventional or printed encyclopedias, i.e. the capacity of information provided is wider in range. In other words, the

material contained in the application of this development product can be adapted to the development of science.

As the digital encyclopedia of PPKn learning has been developed according to the needs of grade III students at SDN Karet 01 Pagi, the characteristics of this application are essentially in accordance with the cognitive and affective development of students. In the Enskilopedia Technical Instructions published by the Ministry of Education and Culture of the Republic of Indonesia, the scope of making a digital encyclopedia must be made taking into account the characteristics of readers in the age range, language arrangement, vocabulary, and sentences in their respective fields. Therefore, the characteristics of PPKn learning to instill the attitude of responsibility of elementary school grade III students are easily accessible, the language used is colloquial that can be understood by the age of grade III students, the material displayed in accordance with the basic competencies of the 2013 curriculum, the media used is interesting and in accordance with the text described, and the application display based on media validation is very interesting and colorful or colorful. The characteristics of this digital encyclopedia are in accordance with the learning objectives to be achieved, namely instilling a student attitude of responsibility based on observation and analysis is one of the problems in distance learning.

CONCLUSION

This research and development resulted in a product in the form of the VAT Learning Digital Encyclopedia application to instill the attitude of responsibility of elementary school grade III students. The cultivation of attitude of responsibility to students is based on observation of the learning process that took place during the COVID-19 pandemic. In distance learning it was found that students are less responsible in carrying out learning. For this reason, proof is done by analyzing data on student responsibility attitudes with sufficiently responsible results.

As a product of development, various stages have been taken to produce the most effective and productive final product. Product effectiveness is an effort so that students' needs regarding their attitude of responsibility can be realized for the better. Therefore, there are several stages in making it happen. That stage goes through the process of analyzing the needs of student attitudes, product design based on the analysis obtained, product development, validation by experts, and trials three times.

Some of the stages in this development are in accordance with the development procedures by Hannafin and Peck that place evaluation and revision at every other stage. This is an effort to make the resulting product more effective in its feasibility aspect. Based on each stage that has been passed, the product has been revised several times. Revision starts from the validation process by experts who provide valid assessments and views of the products of this application. After passing the validation stage, the product is evaluated for improvement or revision so that it can be continued at the trial stage for students who passed three tests. The first trial was conducted on several grade III students called individual stages or one to one. This stage produces data showing that the effectiveness of products against the cultivation of attitudes of responsibility through liability and rights material reached a score of 78.18% with good categories. The revision made to the results of this trial is to change the order of the menus in

the digital encyclopedia application so that the loaded material can be accessed easily by students.

After passing the first trial stage, continued with the next stage of students in small groups called small groups. This stage begins by providing revised products to learners to be studied independently within a certain period of time with direction from the teacher and assistance from parents. This stage produced data showing that the effectiveness of the product against the cultivation of student attitudes of responsibility through liability and rights materials achieved a score of 78.80% with good categories and improved from the results of previous trials.

Based on the results of the analysis of the student small group trial indicator, no revisions or improvements were made because the indicator with the lowest score was in the category enough. Therefore, the last stage of the trial was a large group trial that produced a score of 84.09%. After going through several stages of trials, the application of digital encyclopedia of PPKn learning is ready to be implemented for learning by grade III students to instill an attitude of responsibility through the material obligations and rights in the home, school, and community. Thus, it can be concluded that basically this digital encyclopedia application was created to instill a good attitude of responsibility to grade III elementary school students.

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