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Development of Three-Dimensional Worksheets Using Canva on The Human Digestive System for the 5th-Grade Natural Sciences Course Jepun Public Elementary School 1 Tulungagung Regency 2025/2026 School Year

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Abstract

This study was motivated by the lack of varied teaching materials used in IPAS lessons on the human digestive system for 5th-grade students at State Elementary School 1 Jepun, Tulungagung Regency. This study aims to: (1) describe the process of developing three-dimensional worksheets using Canva for the topic of the human digestive system, (2) determine the validity level of the three-dimensional worksheets using Canva, and (3) determine the practicality level of the three-dimensional worksheets using Canva in the IPAS subject for fifth-grade students at SDN 1 Jepun, Tulungagung Regency. This study employed a Research and Development (R&D) method using the ADDIE development model, which includes the Analysis, Design, Development, Implementation, and Evaluation stages. Data analysis utilized quantitative descriptive analysis with a Likert scale to determine the validity and practicality of the product. The research results show that the three-dimensional worksheets created using Canva received a validity score of 92% from subject matter expert 1, classified as “highly valid”; 100% from subject matter expert 2; 98% from media expert 1; and 92% from media expert 2, all of which were classified as “highly valid.” The results of the practicality test showed a response rate of 96% from teachers, 96.4% from small-group student respondents, and 96.5% from field test student respondents, all categorized as “highly practical.” Thus, the three-dimensional worksheets created with Canva regarding the human digestive system are suitable for use as supplementary teaching materials for fifth-grade elementary school science lessons on the human digestive system.

Keywords: *Three-Dimensional Student Worksheets, IPAS, Human Digestive System, ADDIE*

INTRODUCTION

Natural and Social Sciences (IPAS) is a required subject taught at the elementary school level. The Natural and Social Sciences (IPAS) curriculum aims to equip students with knowledge about natural phenomena and social life in their surrounding environment. According to Brilliantti et al. (2025), IPAS instruction supports students in developing critical thinking skills, curiosity, and a direct concern for the natural environment. IPAS content is designed to be relevant to students' environments so that it is easily understood by elementary school students. One of the main topics in the fifth-grade IPAS curriculum is the human digestive system, which is closely related to students' daily lives. Fifth-grade elementary school students are at a stage of cognitive development where they focus on concrete concepts. Lesson material on the human digestive system should be presented visually. According to Shelviana et al. (2023), abstract concepts—such as mechanical and chemical digestion—are often difficult to understand if taught solely through lectures and textbooks. Through this material, students at SDN 1 Jepun are expected to effectively understand the human digestive system. Therefore, teaching methods are needed that help students visualize the process of food digestion so that the concepts they learn become easier to understand and more meaningful.

Based on observations conducted at SDN 1 Jepun—through interviews with the homeroom teacher of Class VB and several students in Class VB, as well as direct observation of the learning process—it was found that IPAS learning activities still rely heavily on lectures. Teachers at SDN 1 Jepun predominantly use workbooks and textbook sets as their primary learning resources. Assignments and practice exercises given to students still rely on worksheets containing practice questions and remain monotonous in nature. The worksheets used still consist of monotonous questions, and their visual presentation fails to capture students' interest. According to (Irwan et al. 2021), students appear unenthusiastic and bored during classroom learning due to a lack of variety in classroom activities. Students' understanding of the human digestive system has not been optimal because classroom learning activities generally lack variety. This situation indicates the need for worksheets as teaching materials to support students in understanding the material through the presentation of varied practice questions, thereby increasing their interest in learning.

Student Worksheets (LKPD) are needed as supplementary teaching materials to increase students' enthusiasm for classroom learning activities. Student Worksheets (LKPD) can help students understand the material through focused and conceptual learning activities. According to (Fitriani et al., 2025), variety in Student Worksheets (LKPD) is essential and can be presented either individually or in groups. The material on the human digestive system tends to be easier to understand when presented through activities that directly involve students. The development of creative and innovative Student Worksheets is necessary to make learning more engaging and meaningful.

LKPDs are worksheets presented with a more realistic and engaging visual design. Based on this, the use of three-dimensional elements can help students understand abstract concepts in a concrete way. These three-dimensional worksheets are equipped with pictures, illustrations, and attractive, vibrant color variations that capture students' attention due to their appealing design. According to (Parmiti et al., 2023), an attractive presentation can increase students' interest and motivation to learn. It is hoped that these three-dimensional worksheets will optimally capture the attention of fifth-grade students at SDN 1 Jepun, thereby supporting classroom learning activities.

Three-dimensional worksheets are printed worksheets that feature pop-up animations within the worksheet. The "three-dimensional" aspect refers to the fact that each question includes an illustration of the human digestive system, designed with pop-up visuals for each organ in the system. The engaging and lifelike three-dimensional display makes students more enthusiastic about participating in the learning process. Students become more active and enthusiastic about observing, reading, and completing the tasks in the worksheets (Ghaisani et al., 2023). Student engagement in learning activities can enhance their understanding of the human digestive system. Creating engaging three-dimensional worksheets requires creative design that is tailored to students' needs.

The three-dimensional worksheets were designed using the Canva app as a design tool. Canva provides a wide variety of templates, icons, and illustrations to support the creation of engaging worksheets. The design of the worksheets becomes more varied and less monotonous because the application contains many interesting features that support their design (Jayanti et al., 2025). Using Canva simplifies the development of visually appealing worksheets and allows for customization to suit the characteristics of elementary school students. The use of the Canva application has several advantages and disadvantages that need to be considered in the development of worksheets. The Canva app offers the advantages of ease of use and a simple main page layout. Canva provides many free features and animations that can be used to create instructional materials. This app can help users create designs quickly and offers flexibility in its use (Suwastini et al., 2022). A limitation of Canva is that some premium image animations require a paid subscription. The use of Canva in the development of worksheets should be compared with previous research that still relied on conventional media. Previous research indicates that three-dimensional worksheets are generally still predominantly in digital form.

Digital worksheets have limitations in their use, primarily because digital technology adoption at the elementary school level remains relatively limited. This is due to variations in the resources, infrastructure, and facilities available at each school. Digital use can hinder learning activities because devices must be shared among students, making the process less efficient for learning. Students tend to get bored quickly with monotonous learning activities (Fatmawati et al., 2023). Innovative ideas regarding the form and design of worksheets are still rare. Based on the current situation and existing research, there is a need to develop three-dimensional worksheets using Canva for the topic of the human digestive system. These three-dimensional worksheets feature unique designs through animated pop-up images of the human digestive system, created using the Canva application and

presented in print format. Consequently, the development of these three-dimensional worksheets is expected to increase students' interest in understanding the human digestive system and assist teachers in introducing innovative print-based worksheets. The development of three-dimensional worksheets using Canva on the topic of the human digestive system is a way to improve the quality of science education. This study focused on fifth-grade students at State Elementary School 1 Jepun in Tulungagung Regency. The worksheets were developed using a three-dimensional model that is engaging and easy for students to understand, and of course, tailored to their needs. The use of Canva is expected to create worksheets that are innovative, effective, and engaging. This study was conducted during the 2025–2026 school year as a primary solution to IPAS learning challenges at the school.

METHOD

This study employed the Research and Development (R&D) method. The R&D method is a research approach aimed at producing a product while simultaneously testing its feasibility before implementing it in the learning process. The product developed in this study is a three-dimensional worksheet created using Canva on the topic of the human digestive system for the IPAS subject in fifth grade of elementary school. According to (Ningsih et al.,2024), the Research and Development method consists of a series of steps used to design, develop, and validate educational products. According to (Kusuma et al.,2025), research and development is a process that involves reviewing relevant theories and research findings, developing products based on that review, testing them in real-world situations, and revising the products to address any identified shortcomings. This process is known as the development cycle, which is oriented toward continuous product improvement. According to (Irawati et al.,2024), research and development is a widely used method in the field of education to produce effective and practical innovations. The primary objective of this method is to create useful products through the stages of problem identification, solution design, product development, and testing of effectiveness. In the context of education, the R&D method can be used to develop various products, such as learning models, teaching modules, learning media, and instructional materials that are innovative and tailored to students' needs. The product developed in this study is a three-dimensional student worksheet created using Canva on the topic of the human digestive system. The development model used is the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation. The ADDIE model was chosen because it involves systematic, logical steps that are well-suited for the development of instructional media. Through these stages, the worksheets developed are expected to meet the criteria of validity, practicality, and suitability for use in fifth-grade elementary school science classes.

RESULTS AND DISCUSSION

Based on the results of unstructured interviews with fifth-grade homeroom teachers, the following information was obtained. The total number of fifth-grade students at SD Negeri 1 Jepun is 33, consisting of 16 boys and 17 girls. The curriculum used is the Merdeka Curriculum. The teacher explained that the worksheets previously used in IPAS lessons were LKS and textbook workbooks. The student worksheets that had been used were taken from textbook workbooks and LKS. The use of LKS and textbook workbooks during the learning process enabled students to follow the lessons quite well. The fifth-grade homeroom teacher said that students would be happier if they used LKPDs that were more engaging. The statements from the fifth-grade homeroom teacher align with the observation results, indicating that students' level of active participation in the learning process still needs to be improved. This is evident from the fact that many students were not focused during learning activities. Time constraints in preparing student worksheets using the new application prevented the teacher from presenting the worksheets in an engaging format. According to the teacher, the three-dimensional worksheet on the human digestive system had never been used in IPAS lessons before; therefore, the teacher felt it would be very helpful if Grade 5 classes had access to student worksheets featuring new innovations tailored to the students' needs. The researchers conducted unstructured interviews with fifth-grade homeroom teachers at SD Negeri 1 Jepun to gather information regarding learning challenges before developing these three-dimensional student worksheets. The unstructured interviews with the fifth-grade homeroom teachers focused on the practice exercises previously used in fifth-grade classes—particularly in science lessons—such as worksheets and textbook workbooks, due to the teachers' limited time to create student worksheets using the new application. Based on the

results of an unstructured interview with one of the fifth-grade students, it was revealed that fifth-grade students become bored when learning IPAS material, particularly on the topic of the human digestive system, because the lessons are monotonous and cause students to lose interest quickly while completing assignments.

The student stated that they would prefer practice questions presented in an engaging, colorful format on worksheets that are more appealing than the textbook and workbooks. Based on the results of unstructured interviews with the fifth-grade homeroom teacher at SD Negeri 1 Jepun, it was found that instruction on the topic of the human digestive system remains focused on worksheets and relies solely on the textbook. The teacher has never used new, more practical, and engaging worksheets, which fails to capture students' attention—resulting in some students still tending not to complete the assignments or practice problems given to them. Based on the results of the student needs analysis, the researcher intends to develop three-dimensional student worksheets (LKPD) using the Canva app, which are more practical and take advantage of new innovations in technology. The use of these three-dimensional worksheets is expected to make students more active and to be more practical for both students and teachers. This Canva-based 3D student worksheet includes a summary of the learning material.

Through this 3D worksheet, students have the opportunity to study the material presented to clarify the learning concepts. The 3D worksheet features practice questions accompanied by engaging images, which help students retain the material as they learn about the human digestive system. Based on the results of the interview and analysis of the material, it was found that the material in the textbook is still limited. Students do not yet have a complete understanding of the human digestive process. Based on the results of the material analysis through interviews, the researcher presents a three-dimensional worksheet created using Canva, accompanied by a summary of the learning material and practice questions featuring three-dimensional images of the human digestive organs. It is hoped that this will help students distinguish the shapes and functions of the digestive organs. Based on the analysis of the worksheets completed by fifth-grade students at SD Negeri 1 Jepun, it was found that the practice exercises on the human digestive system were still monotonous, relying solely on textbooks and worksheets. The researcher distributed the three-dimensional worksheets to the students when the digestive system material was taught. The students worked on them directly in groups that had been assigned by the teacher beforehand.

The development of three-dimensional LKPD products is carried out in five stages. The initial analysis stage has already been explained in the sections on problem identification, problem analysis, and needs analysis. The subsequent stages are design, development, implementation, and evaluation. This stage involved the design process for a three-dimensional student worksheet on the human digestive system, based on the results of the analysis conducted. This three-dimensional student worksheet uses material on the human digestive system that is aligned with the Merdeka Curriculum. The researcher designed the three-dimensional student worksheet using the Canva application. The researcher chose Canva as the tool for designing the three-dimensional worksheet because the application offers many free and attractive features, making it easier for the researcher to create the worksheet. The selection of images and colors in creating this three-dimensional worksheet was tailored to the specific requirements.

The design specifications for the three-dimensional student worksheets that have been developed cover the following aspects. The researchers chose a clear and easy-to-read font to make the layout appealing to users. The researcher used the League Spartan font for all text on the title page of the initial display and the Open Sans font for the entire content of the three-dimensional worksheet. The design of the three-dimensional worksheet was created using the Canva application on A4-sized paper, with a portrait orientation. This size was chosen to align with the worksheets commonly used in classroom instruction. The researchers selected the human digestive system unit from the fifth-grade IPAS curriculum as the subject matter for developing the three-dimensional worksheet, as this topic requires practice exercises to help students strengthen their recall of the material, particularly regarding the human digestive system. The presentation of the material summary in this three-dimensional worksheet is aligned with the learning outcomes and learning objectives. This material covers the digestive organs found in the human body, the functions of these organs, and disorders of the human digestive system. The selection of practice questions for the development of this three-dimensional worksheet was based on the learning outcomes and learning objectives to be achieved. These practice questions are presented in the form of instructions for filling out the answer sheet on the following page. All exercises use an essay-style format.

Throughout the development process, the student worksheets were created entirely using the Canva app. The completed designs were then produced in print, with Canva serving as the supporting software to assist in designing the student worksheets. Below is an image of the three-dimensional student worksheet design that was created. During the evaluation stage, the validity and practicality of the three-dimensional student worksheets were assessed. After the materials were deemed valid by experts, the next stage involved a practicality test with respondents. The practicality was assessed based on the feedback from teachers and students during the use of the student worksheets. Based on the results of its use in the IPAS subject for fifth-grade students at SD Negeri 1 Jepun, this teaching material can be categorized as “Very Practical.” A detailed description of the experts’ validation results is provided in the following explanation.

Table 1. Result of Expert Validation

Validator	Validator Score (%)	Category
Material Expert 1	92%	Very Valid
Material Expert 2	100%	Very Valid
Media Expert 1	98%	Very Valid
Media Expert 2	92%	Very Valid
Teacher Respondent	96,4%	Very Valid
Student Respondent	96,5%	Very Valid

The completed design was then implemented in print form, using Canva as the supporting software to assist in designing the student worksheets. Below is an image of the three-dimensional student worksheet design that was created.

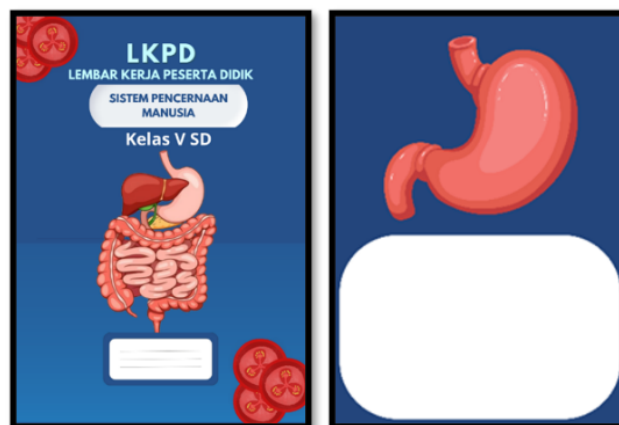


Figure 1. Front Cover & Page 9 Display

CONCLUSION

The process of developing three-dimensional worksheet-based learning materials using Canva for the human digestive system unit in the IPAS curriculum for fifth-grade students at SD Negeri 1 Jepun was carried out using the ADDIE model, which includes the following stages: the analysis stage (Analyze), the design stage (Design), the development stage (Development), the implementation stage (Implementation), and the evaluation stage (Evaluation). Based on the assessment results, the validation conducted by Media Expert 1 achieved a 98% validity rate, Media Expert 2 achieved a 92% validity rate, Content Expert 1 achieved a 92% validity rate, and Content Expert 2 achieved a 100% validity rate, which is also classified as “Highly Valid.” Overall, the experts’ assessment results indicate that the three-dimensional Canva-assisted worksheets on the human digestive system for the IPAS curriculum in Grade 5 at SD Negeri 1 Jepun are deemed “Highly Valid” and suitable for use in instruction.

DECLARATION OF GENERATIVE AI

The authors declare that no generative AI or AI-assisted technologies were used in the writing process of this manuscript.

CONFLICTING INTEREST STATEMENT

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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