Effectiveness of E-LKPD based on Liveworksheets on Improving Students' Motivation and Learning Outcomes

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Abstract

Background of Study: The low motivation and learning outcomes of social studies students at SMP Negeri 2 Marga are problems in the learning process. Through the development of digital technology in the world of education, it is necessary to utilize interactive learning media that are more effective and interesting. One of these media is Liveworksheets-based E-LKPD, which allows students to learn independently, interactively, and in real-time.

Aims and scope of the paper: This study aims to analyze the effectiveness of using Liveworksheets-based E-LKPD in improving social studies motivation and learning outcomes.

Methods: The scope of the study focused on students of SMP Negeri 2 Marga. This study used a quantitative method with a developmental research design. The subjects of the study were students of SMP Negeri 2 Marga class E. The research instruments included a learning motivation questionnaire and a learning outcome test. The data analysis method used quantitative descriptive statistical techniques with an average formula.

Results: The results showed that students' learning motivation increased on average from 76 to 81 with classical completeness of 78% to 91%. Students' social studies learning outcomes increased from 74 to 85 with classical completeness of 72% to 94%. Based on the increase in pre-test and post-test results, it can be concluded that Liveworksheets-based E-LKPD is effective in social studies learning.

Conclusions: Thus, Liveworksheets-based E-LKPD can be an alternative interactive, interesting, and appropriate learning media for the problems experienced at SMP Negeri 2 Marga.

A. Introduction

The rapid advancement of technology has had a significant impact on the field of education. Technology facilitates communication, access to information, and provides learning tools through various platforms. The use of the internet also allows students to complete assignments more efficiently. The role of teachers is very important in driving this progress, as reflected in Government Regulation No. 19 of 2017 concerning Teachers. This regulation emphasizes that the development of science and technology has a direct impact on the professional development of teachers to improve their competence, as an update of Government Regulation No. 74 of 2008.

The use of technology in education supports the development of students' digital competencies and prepares them to face the challenges of the digital era. The education system is expected to be flexible, making the teaching process interesting and adaptive to changes in the times, which has a positive impact on the quality of learning. According to Government Regulation No. 4 of 2022, students must master the knowledge, skills, independence, and attitudes to develop and apply science and technology. This emphasizes the importance of individuals to continue to update their skills as technology advances.

The education sector needs to prepare for transformation to prepare future generations to compete in an ever-changing environment. One important step is to routinely update the curriculum (Cholilah et al., 2023). According to Manalu et al. (2022), the curriculum includes material plans, learning resources, and learning experiences that serve as guides for teachers. Curriculum changes must be adjusted to advances in the digital era, which is an important basis for the development of independent learning education.

Indonesia has made various curriculum modifications (Fatmawati & Yusrizal, 2021). A flexible curriculum must be able to adapt to the times and the characteristics of students (Cholilah et al., 2023). The Minister of Education, Culture, Research and Technology, Nadiem Makarim, introduced the independent learning curriculum that focuses on student independence, allowing them to access knowledge from formal and informal education (Manalu et al., 2022). Many schools have implemented the independent learning curriculum in the 2022–2023 academic year (Alimuddin, 2023).

Social studies education in schools integrates the basic concepts of various social sciences, with an approach that pays attention to psychological relevance for students from elementary to junior high school/Islamic junior high school. Social studies discuss events, facts, and social issues, covering cognitive, psychomotor, and affective aspects. The goal of social studies learning is to guide students to become democratic, responsible, and peace-loving citizens. Permendiknas Number 22 of 2006 emphasizes the importance of systematic and comprehensive social studies learning design to help students understand social sciences and have awareness of social issues. Through social studies education, students are expected to be able to solve social problems and become good citizens.

Motivation, in the view of society, is often interpreted as 'spirit', while learning outcomes refer to individual achievements in developing their abilities through a process involving effort, as well as cognitive, affective, and psychomotor abilities. This process takes place over a long period of time, so that individuals experience changes and knowledge obtained from direct or indirect observation, which then sticks permanently. Learning outcomes can be measured through the evaluation scores obtained by students. Motivation is the basis for students to achieve optimal learning outcomes, which are then used as a reference to determine competency achievement. Learning outcome scores also affect students' learning completion, which can determine whether they can continue to the next level.

Learning can be considered effective and efficient if there is two-way interaction or communication between teachers and students by utilizing technology that can increase students' interest, motivation to learn, and attention. With technology, it is hoped that teachers can present lessons in a more interesting, creative, and innovative way (Auliya & Nuroh, 2023). Technology functions as a media and learning resource that makes it easier for students to solve problems related to social studies (Oktavia et al., 2021).

However, the reality shows that student learning outcomes are still low, based on several studies. Research by Anggraini & Sukartono (2022) which states that student learning motivation at SMP Aisyiah Surya Ceria Karanganyar is still low, because it is influenced by the lack of involvement, student activeness in the learning process and the use of less interesting learning media. Research conducted by Umaroh et al. (2022) found that at SMP Negeri 1 Mento, out of 19 students, only 8 students (42%) achieved the KKM (Minimum Completion Criteria), while 11 students (58%) had not achieved it. This shows that social studies learning outcomes are still relatively low. Similar findings were also expressed by Febyanti et al. (2024), who noted that the social studies learning outcomes of students at SMP Negeri 8 Makasar were still very low, so efforts were needed to improve the learning process.

Based on the results of observations at SMP Negeri 2 Marga, several problems were identified. First, teachers still use conventional methods (lectures) that focus on teaching, so that student participation is minimal and inhibits the development of critical thinking. Second, the teaching materials used, such as books and PowerPoint presentations, are less varied and do not encourage students to find concepts independently, so that learning motivation is low. Third, many students have difficulty analyzing questions and consider social studies boring, due to monotonous material and uninteresting delivery methods. Fourth, teachers only use supplementary material enrichment books (BPPM) containing social studies questions, without utilizing Liveworksheet-based E-LKPD. Fifth, the learning process does not integrate technology

enough, even though it should be used to support more effective learning in accordance with the challenges of the 21st century.

Furthermore, interviews with students revealed that social studies learning felt less interesting and boring, because the material only came from books. They had never received material presentation with more interesting audio-visual media. As a result, students were less motivated to learn social studies, which were considered to only require memorization, not problem solving. The results of learning social studies were also not optimal, as evidenced by the test scores of all classes not reaching the KKTP of 70, indicating that social studies lessons were not yet effective. Analysis of student answers indicated difficulties in the ability to apply (C3), analyze (C4), evaluate (C5), and create (C6), which indicated low critical thinking skills of students (Anderson & Krathwohl, 2001). Thus, the motivation and results of learning social studies in class IX of SMP Negeri 2 Marga are still relatively low.

The solution to overcome these problems is to develop teaching materials that are appropriate to students' needs (Wirawan et al., 2023). Interactive teaching materials are needed to support more effective learning and achieve the expected goals. Therefore, teachers need to design interesting and meaningful social studies learning to overcome problems related to students' difficulties in solving social studies questions, especially on the theme of Humans and Change. One way that can be done is to use teaching materials in the form of LKPD. Student Worksheets that are commonly used in schools are printed LKPD (Kholifahtus et al., 2021).

In fact, many LKPDs currently used are less varied and innovative, with simple designs and unattractive content, often only containing text without images, so they feel monotonous (Al Fuad, 2016). Students tend to rely on guidebooks such as social studies textbooks and LKS, which make learning monotonous and less enjoyable. This reduces student activity and causes a less in-depth understanding of social studies material concepts (Rahmawati & Rosyidah, 2020). Printed LKPDs have not provided significant motivation and impact on students' learning process. Generally, LKPDs only contain black and white writing with stagnant material, examples, and practice questions. The included social studies images are also less effective and practical (I. Nurhayati et al., 2024). Although often used, the unattractive LKPD design and unattractive cover images have a negative impact on students' learning motivation (D. Nurhayati, 2021).

The use of printed LKPD is considered ineffective as a teaching material, both in terms of appearance, content, and practicality (Nurlaila, 2022; Yusuf et al., 2017). The printed LKPD that has been used so far is increasingly inappropriate, because students tend to prefer IT (Information and Technology)-based products. Therefore, innovation is needed to change printed LKPD into electronic LKPD (Dwiputri et al., 2022). Electronic LKPD is a student exercise sheet that is done digitally within a certain period of time (Hamdani et al., 2021). E-LKPD functions as a learning resource that includes assignments and activities, helping students understand the concept of material that is integrated with technology. This enables more effective learning by reducing space and time constraints (Suryaningsih & Nurlita, 2021). To create an ideal E-LKPD, it is important to understand students' needs and interests. Analyzing their characteristics and learning styles is crucial so that the E-LKPD that is developed can be adjusted and can increase student motivation and learning outcomes.

Research on E-LKPD has been widely conducted by previous researchers, including research by Muhijrahtuddivn et al. (2023) which shows that the implementation of E-LKPD can improve student motivation and learning outcomes. According to Puspita & Dewi (2021), the use of E-LKPD in the teaching and learning process can change previously boring learning activities to be more fun and interesting, and create a more interactive learning atmosphere, so that students are more motivated to learn. E-LKPD can be used in both online and face-to-face learning. In addition, research by Hidayat at al. (2019) shows that E-LKPD with 3D pageflip based on Problem Based Learning is suitable for use as one of the teaching materials. In addition, flipbook-based E-LKPD is considered feasible, practical, and effective for use in the learning process according to research Nufus & Sakti (2021). The presentation of previous studies shows several novelties in this study. First, the development of E-LKPD is focused on social studies subjects. Second, the level of education developed is junior high school grade IX. Third, this E-LKPD is created using the liveworksheets application. According to Andriyani, live worksheet is a website-based platform provided by Google, which allows users to create and utilize E-LKPD for free, as well as change printed worksheets into online worksheets.

Based on previous research, it is proven that E-LKPD using liveworksheets is valid, practical, and effective to be used as teaching materials in schools, the results of research from (Apfani & Anggraini, 2023). In line with this, social studies learning using liveworksheets can present good material, so that students become active and students' motivation and cognitive learning outcomes increase (Fitriyani et al., 2024). The results

of this study made the author interested in developing E-LKPD based on liveworksheets. E-LKPD using the liveworksheets website is an effective electronic learning media, presenting text, images, animations, audio, and videos (Khikmiyah, 2021). The advantage is that teachers can design interactive E-LKPD according to their needs, while students can work on E-LKPD directly on their cellphones with scores automatically appearing on the worksheet (Supriatna et al., 2022). The liveworksheets website has the advantage of creating E-LKPD online, saving time and paper, and allowing designs that suit student needs and various types of questions (Umaroh et al., 2022). Live worksheets also offer interesting features for designing creative and interactive LKPD. With the development of this E-LKPD, it is hoped that students will be more active, not get bored quickly, and more easily understand the concept of social studies material, making learning more interesting and varied than printed LKPD. Liveworksheets-based E-LKPD has differences and advantages compared to other E-LKPDs, especially in terms of interactivity and ease of use. Compared to interactive PDF or Google Form E-LKPDs, Liveworksheets offers more varied features such as drag-and-drop, matching pairs, multiple choice, short answers, and audio and video integration. This platform also allows students to get automatic feedback directly and teachers can summarize student work in real-time without manual correction. In addition, its user-friendly appearance and can be accessed on various devices without additional applications make Liveworksheets-based E-LKPD more effective in increasing student engagement, independence, and learning outcomes in the digital era. Based on the background description that has been presented, it is important to conduct this study on the effectiveness of Liveworksheets-Based E-LKPD on Increasing Student Motivation and Learning Outcomes in Social Studies Subjects at SMP Negeri 2 Marga.

B. Research Methods

This research is a type of research and development (Research and Development). The development of E-LKPD based on Liveworksheets on the material of Social Change applies the 4D model (Define, Design, Develop, and Disseminate), which is adapted into the 4-P model, namely Defining, Designing, Developing, and Disseminating, developed by Thiagarajan (Supriatna et al., 2022). This model was chosen because it has systematic stages, provides clear directions, and details in the development of teaching materials. There are two types of variables in the study, namely the independent variable and the dependent variable. The independent variable in question is the Development of E-LKPD Based on Liveworksheets and the dependent variable in question is Student Motivation and Learning Outcomes in Social Studies Subjects. This research will be conducted at SMP Negeri 2 Marga which is located at Jalan Raya Kukuh, Kukuh Village, Marga District, Tabanan Regency. The research time was carried out in the even semester of the 2024/2025 Academic Year. The subjects in this study include product validity with each expert consisting of 2 judges, practicality involving 2 teachers and 22 students, and product effectiveness involving 32 subjects of class IX C students at SMP Negeri 2 Marga who were taught using E-LKPD based on Liveworksheets. The research flowchat can be described as follows.
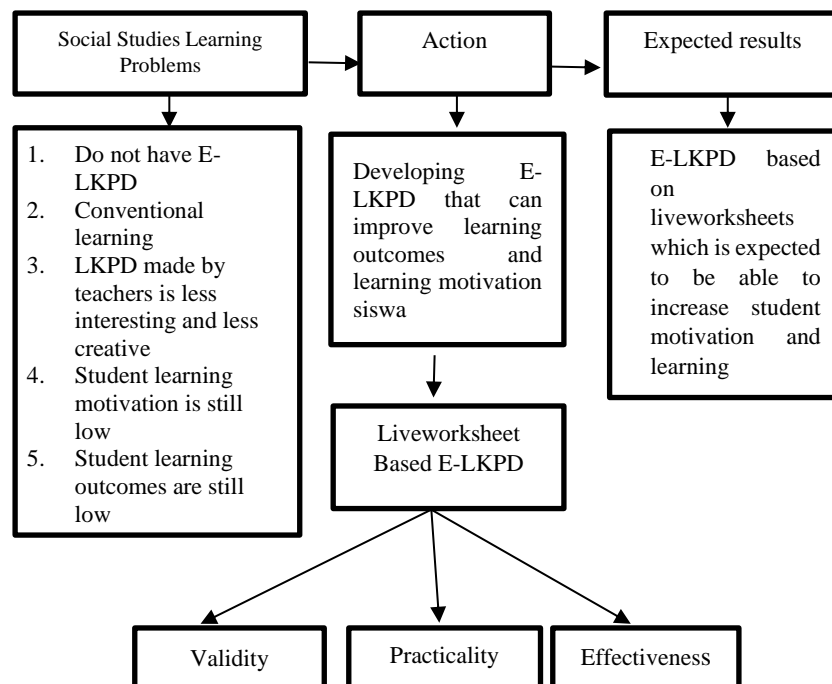
Figure 1. The Research Flowchat

The instrument used in analyzing product design data was carried out by literature review and documentation study that explained the needs analysis until the completion of the E-LKPD product. Product validity data in this study was obtained through a validity test questionnaire filled out by a team of experts and practitioners. The validity data collected was the validation of E-LKPD. The questionnaire method was used to collect product practicality test data. The questionnaires used were teacher response questionnaires and student response questionnaires. The teacher response questionnaire was submitted to teachers online via WhatsApp communication media, while the student response questionnaire was submitted to students online via WhatsApp communication media. The method used to collect data on the results of the effectiveness test was to take a classroom action research (CAR) design by comparing before and after the implementation of E-LKPD based on Liveworksheets. This method was chosen because the researcher only wanted to obtain data on student motivation and learning outcomes before and after the implementation of learning using E-LKPD based on Liveworksheets without comparing it with other learning models or approaches.

The data analysis method in this study was carried out qualitatively and quantitatively. The analysis used in making the product design is descriptive. The descriptive analysis in question is to describe the needs analysis, product development process, suggestions and comments from experts, product revisions, until the E-LKPD product is produced that is ready to be used in the study. The validity of the product content in this study includes material experts, media experts, and learning design experts. The data from expert validation of this E-LKPD were analyzed using the average formula. The results of the average calculation of an item or device can be categorized based on its index. To obtain practicality data for the product developed in the form of E-LKPD, a questionnaire was used. The data from the questionnaire that was successfully collected were analyzed using descriptive statistical analysis techniques. The effectiveness of the product can be known or seen from the increase in motivation and learning outcomes of students after participating in learning using the E-LKPD developed in this study. The effectiveness of the product was analyzed using a classroom action research (CAR) design with an average formula comparing the results of the pre-test before using E-LKPD with the results of the post-test after using E-LKPD.

C. Results and Discussion

The results of the research and discussion presented include the design of E-LKPD based on liveworksheets, product validity from experts, level of practicality, and effectiveness in increasing student motivation and learning outcomes in social studies subjects at SMP Negeri 2 Marga. The results and discussion of the research can be described as follows.

1. **Result**

a. **Design of E-LKPD based on Liveworksheets**

The product produced is E-LKPD based on liveworksheets consisting of one chapter with 4 (four) sub-chapters, namely social change, changes in the modernization era, globalization, and local wisdom. The four sub-chapters are made in liveworksheets with the following links. 1) Social change is available at the link: https://bit.ly/perubahansosialipssmp, 2) Changes in the Modernization Era are available at the link: https://bit.ly/perubahanpadaeramodernsasi, 3) Globalization is available at the link: https://bit.ly/globalisasiipssmp, and Local Wisdom is available at the link: https://bit.ly/kearifanlokalipssmp. The design of the E-LKPD IPS consists of identity, learning objectives, activity instructions, materials, equipped with videos, and evaluation questions. Input from experts to be made in one link only, but the liveworksheets application limits the size of PDF files, images, or audio that can be uploaded. If the file is too large or the format is not supported, the upload process may fail. Due to the limitation of the number of pages on Liveworksheets, a maximum of 15 pages, it is made into 2 links, as follows. 1) Material 1 & 2 are available at the link https://bit.ly/materi1perubahansosial2perubahansosialmasyarakateramodernisasiipssmpkelas9. 2) Material 3 & 4 are available at the link https://bit.ly/materi3 globalisasi4kearifanlokalipssmkkelas9.

b. **Validity of E-LKPD based on Liveworksheets**

A product that is worthy of use must first be validated. The validity of the product in this study includes content experts, media experts, and language experts. The data from expert validation of E-LKPD based on liveworksheets were analyzed using the average formula. The results of the validation of material experts on E-LKPD based on liveworksheets showed that of the eleven components in the material experts, the average was 95.45 indicating a very valid qualification. The results of expert validity can be seen in the following table.

Table 1. Content Validity E-LKPD based on Liveworksheets

No	Content Validity	Score	Qualification
1	Material expert	95, 45	Very Valid
2	Media Expert	98,00	Very Valid
3	Linguist	97,50	Very Valid

c. **Practicality of E-LKPD based on liveworksheets**

After the product has been validated and improved, the next stage is to find the level of practicality of the product. To obtain practicality data, the product developed in the form of E-LKPD based on liveworksheets uses teacher and student questionnaires. The practicality test of E-LKPD aims to assess whether the worksheet is easy to use, effective, and in accordance with the needs of students and teachers. The practicality test process usually involves two teachers and 32 students.
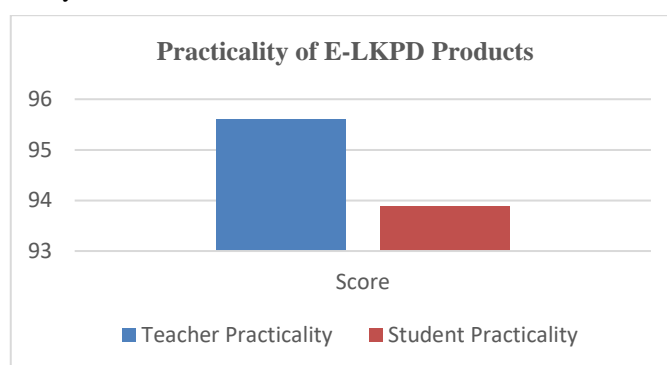

Figure 2. Practicality of E-LKPD Products

The results of the teacher practicality test on E-LKPD based on liveworksheets involving 2 reters obtained a total score of 2390 with an average of 95.60 qualifications indicating very practical. The suitability of the material with CP averages 90 with a very practical qualification. The clarity of the formulation of indicators based on CP averages 90 with a very practical qualification. The material in the complete E-LKPD averages 100 with a very practical qualification.

In addition to teachers, practicality is also measured through student assessments. The results of the student practicality test on E-LKPD based on liveworksheets involving 32 reters obtained a total score of 2347 with an average of 93.88 qualifications indicating very practical. The suitability of the material with learning objectives averaged 86 qualifications indicating practical. The clarity of the formulation of indicators based on learning objectives averaged 85 qualifications indicating practical. The fulfillment of material in E-LKPD averaged 96 qualifications indicating very practical. The relevance of the material to student character averaged 93 qualifications indicating very practical. The suitability of the summary with the description of the material averaged 89 qualifications indicating practical.

d. Effectiveness of E-LKPD based on liveworksheets

The implementation of E-LKPD based on liveworksheets to improve student motivation and learning outcomes was carried out at SMPN 2 Marga in 1 class as a research subject, namely class IX C. The number of students was 32 people. The effectiveness of E-LKPD based on liveworksheets was carried out by taking 1 class that was given treatment by comparing the results of the pre-test with the results of the post-test after being given treatment.
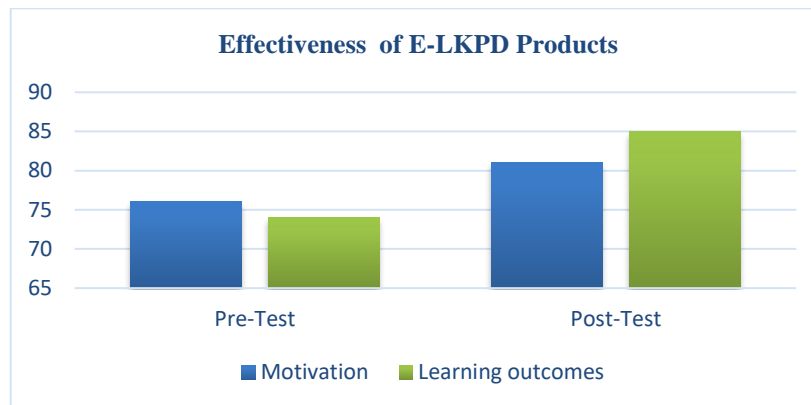

Figure 3. Effectiveness of E-LKPD Products

The results of the pre-test of student learning motivation before the treatment of E-LKPD Based on Liveworksheets at SMPN 2 Marga obtained a class average of 76 with a good category while the classical completeness was 78%. The category of success from the implementation of the effectiveness of this study refers to a class average of at least 80 with a good category and a classical completeness of at least 90%. This means that the results of the pre-test showed that the success target had not been achieved so that it was necessary to implement the treatment of using E-LKPD Based on Liveworksheets at SMPN 2 Marga.

The pre-test results of student learning outcomes before the treatment of Liveworksheets-Based E-LKPD at SMPN 2 Marga obtained a class average of 74 with a good category while the classical completion was 72%. The category of success from the implementation of the effectiveness of this study refers to a minimum class average of 80 with a good category and a minimum classical completion of 90%. The results of the post-test on the implementation of Liveworksheets-Based E-LKPD at SMPN 2 Marga obtained a class average of 85 with a very good category while the classical completion was 94%. The category of success from the implementation of effectiveness refers to a minimum class average of 80 with a good category and a minimum classical completion of 90%. This means that the results of the post-test indicate that the target of success has been achieved so that the use of Liveworksheets-Based E-LKPD at SMPN 2 Marga is declared effective.

2. Discussion

The design of E-LKPD based on liveworksheets begins with analyzing needs, analyzing student characteristics, analyzing learning achievements and formulating learning objectives until finally compiling the E-LKPD design. E-LKPD based on liveworksheets consisting of one chapter with 4 (four) sub-chapters, namely social change, changes in the era of modernization, globalization, and local wisdom. The design of the E-LKPD IPS consists of identity, learning objectives, activity instructions, materials, equipped with videos, and evaluation questions. Input from experts to be made in one link only, but the liveworksheets application limits the size of PDF files, images, or audio that can be uploaded. If the file is too large or the format is not supported, the upload process may fail. Due to the limitations of the number of pages on Liveworksheets, a maximum of 15 pages, it is made into 2 links, as follows. 1) Material 1 & 2 are available

at the link https://bit.ly/materi1perubahansosial2perubahansosialmasyarakateramodernisasiipssmpkelas9. 2) Material 3 & 4 are available at the link https://bit.ly/materi3 globalisasi4kearifanlokalipssmkkelas9. Identity on E-LKPD includes the name, class, and student absence number. This identity serves to make it easier for students, teachers, and other parties to recognize LKPD based on material, class, and subjects. The purpose of Identity on LKPD is to adjust LKPD to the class level and curriculum to suit the needs and level of understanding of students. LKPD can also provide an initial picture of what will be learned and worked on. This identity encourages student discipline, with the name and absence number, students are more responsible for their tasks. With a clear identity, LKPD becomes more structured, efficient, and useful in the learning process.

Learning objectives are statements that describe the expected achievements after students follow a learning process. These objectives are usually arranged based on the level of understanding, skills, and attitudes to be developed. Learning objectives in E-LKPD have several important functions, namely: 1) providing learning direction. In providing learning direction, learning objectives explain what students must achieve after completing the LKPD, helping teachers in designing activities that are in accordance with the expected results. 2) guiding students. In guiding students, learning objectives can help students understand the focus of activities in the LKPD and provide an overview of the skills or knowledge that must be mastered. 3) becoming a benchmark for evaluation. As a benchmark in the evaluation, E-LKPD makes it easier for teachers to assess whether students have achieved the expected competencies and helps students reflect on whether they have understood the material well. 4) increasing learning motivation. By knowing the learning objectives, students are more motivated to complete tasks in E-LKPD because they understand the benefits.

Activity Instructions in E-LKPD serve to guide students in understanding the steps that must be taken while working on the worksheet. These instructions should be arranged clearly, concisely, and easily understood. The functions of Activity Instructions in E-LKPD include: 1) Providing clear guidance so that students understand the steps in working on assignments. 2) Helping students follow the flow of activities according to learning objectives. 3) Reducing student confusion and ensuring they can complete assignments correctly. 4) Ensuring students complete E-LKPD correctly according to established procedures. 5) Helping students to work independently without relying too much on teacher assistance.

The material in E-LKPD is learning content presented in digital format to help students understand certain concepts. This material can be in the form of text, images, animations, or other digital interactions. The function of text is to explain the main concept briefly and clearly so that students understand the theoretical basis. Images function to help visualize concepts so that they are easier to understand, especially for children. Animation presents material in a more interesting and interactive way, facilitating understanding through real examples. Audio helps students who have an auditory learning style understand material through hearing. The function of the material in E-LKPD is to provide the information needed by students to understand the material independently, increase interest in learning by using digital media that is more interesting than regular textbooks, support independent learning that allows students to learn at their own pace without always relying on teachers, facilitate access to information in digital format, material can be updated and accessed anytime and anywhere, and help evaluate understanding through interactive questions or digital-based assignments, teachers can evaluate student learning progress.

Learning videos in E-LKPD are audiovisual media used to deliver material in a more interesting, interactive, and easy-to-understand way for students. The function of Learning Videos in E-LKPD is to present concepts in audiovisual form so that they are easier to understand for various types of learners (visual, auditory, kinesthetic). Students are more interested and involved compared to just reading text. E-LKPD also provides a more real learning experience for students by showing real-world examples that are relevant to the learning material. Students can learn in the way that suits them best. Students can rewatch at any time to understand the material better. Interactive videos allow students to answer questions directly while watching.

Evaluation questions in E-LKPD are a series of questions or tasks designed to measure students' understanding, skills, and achievements after studying a material in digital format. These questions can be multiple choice, short answers, matching, essays, or even interactive questions such as drag and drop. Evaluation questions in E-LKPD are not just a test tool, but also function as an interactive learning tool, increasing student independence, and helping teachers in more effective learning. Evaluation questions aim to measure students' understanding, help determine the extent to which students understand the material that has been studied in E-LKPD, with the questions, teachers can identify parts of the material that are still difficult for students. In E-LKPD, evaluation questions can provide automatic feedback so that students can find out their mistakes directly. Students can learn from their mistakes and improve their understanding.

Evaluation questions in digital format allow students to learn independently without having to always rely on teachers. Students can repeat the exercises until they really understand the concept. With digital-based evaluation questions, the assessment process becomes faster and more objective, especially for multiple-choice or matching questions. Teachers can easily see students' progress through the results that are automatically stored in the system. Evaluation questions in E-LKPD are often made in the form of interactive quizzes that are more fun and not boring for students. The results of the evaluation questions can be used to adjust teaching methods to be more effective according to student needs. If many students have difficulty in a topic, teachers can provide additional materials or a different approach. Evaluation questions in E-LKPD are based.

In E-LKPD, there are many sections that can be made interactive to increase student engagement in digital learning. Interactive can be done by using navigation buttons (next/previous) so that students can move between pages easily. Learning videos that can be played, stopped, or fast-forwarded according to student needs. Interactive animations to explain abstract concepts visually. Hyperlinks to external sources, such as articles, simulations, or virtual experiments. Evaluation questions can also be interactive, such as automatic multiple-choice questions: students immediately get feedback after answering. Drag & Drop: students can drag answers to the appropriate place. And in matching concept questions: students connect two related elements.

Research on the design and development of E-LKPD has been widely conducted, one of the studies was conducted Miftah et al. (2020) who designed e-LKPD based on Problem Based Learning (PBL) on ecosystem material for junior high school students. The results of the study showed that the e-LKPD was effective in improving students' critical thinking skills. This study used the ADDIE (Analysis, Design, Development, Implementation, Evaluation) development model and obtained a material expert validation score of 88% (very valid) and a media expert validation score of 90% (very valid).

Another study by Ardila & Hartanto (2017), developed an interactive E-LKPD based on Liveworksheets on dynamic electricity material for high school students. The results showed that the e-LKPD was very practical to use and increased students' learning motivation. The practicality score obtained was 89.3% from teachers and 87.8% from students. In addition, Laila et al. (2022) conducted research on the design of e-LKPD based on Science, Environment, Technology, and Society (SETS) for science learning. This study shows that the integration of the SETS approach in e-LKPD helps students understand the relationship between science and everyday life, with a product feasibility score reaching 92%. Based on these studies, it can be concluded that the design of e-LKPD based on innovative learning, systematically arranged, and assisted by technology, has proven to be effective in improving the quality of learning.

A product that is worthy of use must first be validated. The validity of the product in this study includes content experts, media experts, and language experts. The data from expert validation of E-LKPD based on liveworksheets were analyzed using the average formula. The results of the validation of material experts on E-LKPD based on liveworksheets showed that of the eleven components in the material experts, the average was 95.45 indicating a very valid qualification. The details of each component can be explained as follows. 1) The suitability of the title with the learning achievement averaged 100 with a very valid qualification. 2) The clarity of learning objectives based on learning achievements averaged 100 with a very valid qualification. 3) The recency of the material in the material description section with the learning objectives averaged 100 with a very valid qualification. 4) The truth of the material concept reviewed from the scientific aspect averaged 80 with a valid qualification. 5) The accuracy of the use of terms in the material averaged 90 with a very valid qualification. 6) The relevance of the content of the material to the learning outcomes is on average 100 with a very valid qualification. 7) The contextuality of the material with the environment is on average 100 with a very valid qualification. 8) The adequacy of the material to achieve the formulated learning objectives is on average 100 with a very valid qualification. 9) The suitability of the evaluation with the learning objectives is on average 80 with a very valid qualification. 10) The clarity of the delivery of the content of the material is on average 100 with a very valid qualification. 11) The accuracy of the answer key is on average 100 with a very valid qualification.

In addition to material experts, E-LKPD based on liveworksheets also measures the validity of media experts. Media experts consist of 10 components. The results of media expert validation of E-LKPD based on liveworksheets show that of the ten components in media experts, the average is 98.00 indicating a very valid qualification. E-LKPD is presented in an attractive manner, namely sequential, coherent, straightforward, easy to understand, and interactive with an average of 100 with a very valid qualification. Interesting image illustrations have an average of 100 with a very valid qualification. The use of illustrations to clarify the material does not contain elements of pornography, extremism, radicalism, violence, SARA,

gender bias with an average of 90 with a very valid qualification. Contains contextual insights with an average of 100 with a very valid qualification. The presentation of fonts and interesting material sizes has an average of 100 with a very valid qualification. The size of the module is in accordance with the level of age development and the material/content has an average of 100 with a very valid qualification. The appearance of the layout of the module skin elements is appropriate/harmonious and has an average unity of 90 with a very valid qualification. The giving of color to the harmonious layout elements is an average of 100 with a very valid qualification. The use of letters and font sizes is appropriate with an average of 100 with a very valid qualification. The illustrations used are able to clarify the material with an average of 100 with a very valid qualification.

After the material and media experts, the next E-LKPD based on liveworksheets also measures the validity of the language experts. Language experts consist of 9 components. The results of the validation of language experts on E-LKPD based on liveworksheets show that of the ten components in the material experts, the average is 97.50 indicating a very valid qualification. The use of correct spelling and words is an average of 90 with a very valid qualification. The use of clear sentences and paragraphs is an average of 90 with a very valid qualification. Text illustrations clarify the content, the average is 100 with a very valid qualification. Image illustrations clarify the content, the average is 100 with a very valid qualification. The language used is communicative, the average is 100 with a very valid qualification. The language used is informative, the average is 100 with a very valid qualification. The title of the module is interesting, the average is 100 with a very valid qualification. The title of the learning is in harmony, the average is 100 with a very valid qualification.

The validity of E-LKPD is one of the important aspects in the development of digital-based learning tools. Research on the validity of E-LKPD development has been widely conducted, one study of Taer et al. (2021) showed that E-LKPD based on Discovery Learning on the human digestive system material has a very high level of validity. Validation was carried out by material experts and media experts, with an average score of 89.5% (very valid). Another study developed an Android-based e-LKPD for physics subjects in high school. The validation results showed that the e-LKPD was suitable for use with a validity value of 87.6% from media experts and 90.2% from material experts. This study emphasizes the importance of content clarity, visual appearance, and interactivity in assessing validity (Handani, 2022). Dewi et al., (2022) developed an e-LKPD based on Problem Based Learning for science learning in junior high schools. Validity testing using a validation questionnaire instrument showed that the product obtained a feasibility percentage of 91% from material experts and 88% from media experts, with the criteria "very valid". From the three studies, it can be concluded that the validity of e-LKPD is greatly influenced by the suitability of the content to the curriculum, clarity of language, attractive interface display, and ease of navigation in use. High validity contributes to the effectiveness of e-LKPD in supporting the learning process. After the product has been validated and improved, the next stage is to find the level of practicality of the product. To obtain practicality data, the product developed in the form of E-LKPD based on liveworksheets uses teacher and student questionnaires. The practicality test of E-LKPD aims to assess whether the worksheet is easy to use, effective, and in accordance with the needs of students and teachers. The practicality test process usually involves two teachers and 32 students.

The results of the teacher practicality test on E-LKPD based on liveworksheets involving 2 reters obtained a total score of 2390 with an average of 95.60 qualifications indicating very practical. The suitability of the material with CP averages 90 with a very practical qualification. The clarity of the formulation of indicators based on CP averages 90 with a very practical qualification. The material in the complete E-LKPD averages 100 with a very practical qualification. The relevance of the material to student character averages 90 with a very practical qualification. The suitability of the summary with the description of the material is on average 100 with a very practical qualification. The clarity of the exercise questions according to the material is on average 80 with a practical qualification. The suitability of the evaluation with the formulation of the indicators is on average 100 with a very practical qualification. The correctness of the answer key is on average 100 with a very practical qualification. The completeness of the information on the E-LKPD cover is on average 100 with a very practical qualification.

The suitability of the components on the E-LKPD cover is on average 80 with practical qualifications. The proportional layout is on average 100 with very practical qualifications. The proportional shape and size of the letters are on average 100 with very practical qualifications. The language is easy for teachers to understand on average 100 with very practical qualifications. The ease of language in conveying material is on average 100 with very practical qualifications. The accuracy of punctuation is on average 80 with practical qualifications. The suitability of spelling is on average 100 with very practical qualifications. The

ease of use of E-LKPD is on average 100 with very practical qualifications. The ability of E-LKPD to attract teachers' focus is on average 100 with very practical qualifications. The ability of E-LKPD to support learning is on average 90 with very practical qualifications. The presentation of systematic material and the sequence of presentation is on average 100 with very practical qualifications. The ease of operation is on average 100 with very practical qualifications. The clarity of the object color in E-LKPD is on average 100 with a very practical qualification. The accuracy of the use of paper types is on average 100 with a very practical qualification. The suitability of the background to the material is on average 100 with a very practical qualification. The clarity of the image display is on average 100 with a very practical qualification.

In addition to teachers, practicality is also measured through student assessments. The results of the student practicality test on E-LKPD based on liveworksheets involving 32 reters obtained a total score of 2347 with an average of 93.88 qualifications indicating very practical. The suitability of the material with learning objectives averaged 86 qualifications indicating practical. The clarity of the formulation of indicators based on learning objectives averaged 85 qualifications indicating practical. The fulfillment of material in E-LKPD averaged 96 qualifications indicating very practical. The relevance of the material to student character averaged 93 qualifications indicating very practical. The suitability of the summary with the description of the material averaged 89 qualifications indicating practical. The clarity of the practice questions averaged 91 qualifications indicating very practical. The suitability of the evaluation with the formulation of indicators averaged 90 qualifications indicating very practical. The completeness of the information on the E-LKPD cover averaged 93 qualifications indicating very practical. The suitability of the components on the cover with the contents of the E-LKPD averaged 96 qualifications indicating very practical. Proportional layout average 97 qualifications indicate very practical. Proportional shape and size of letters average 98 qualifications indicate very practical. Use of clear and easy to understand language average 98 qualifications indicate very practical. Punctuation accuracy average 96 qualifications indicate very practical. Spelling conformity with EYD average 94 qualifications indicate very practical. E-LKPD is easy to use average 98 qualifications indicate very practical.

The attractiveness of the E-LKPD display averages 96 qualifications indicating very practical. The ability of E-LKPD to support learning averages 91 qualifications indicating very practical. The systematic presentation averages 97 qualifications indicating very practical. Ease of operation averages 94 qualifications indicating very practical. The clarity of the color averages 94 qualifications indicating very practical. The accuracy of the use of the type of paper averages 88 qualifications indicating practical. The suitability of the background averages 98 qualifications indicating very practical. The clarity of the image display averages 99 qualifications indicating very practical. The practicality aspect of e-LKPD is one of the important indicators in determining the feasibility of using a product in learning. Research (Husniarti et al., 2022) shows that e-LKPD based on Project Based Learning on ecosystem material for junior high school students is considered very practical. The results of the practicality test by teachers and students showed an average score of 89% with the category "very practical". Teachers feel that e-LKPD is easy to use and helps students learn independently.

Another study by Fadhilah, Rahayu, and Nasution (2020) developed e-LKPD based on Liveworksheets in mathematics learning for grade V of elementary school. The results of the practicality test showed that 85% of students stated that e-LKPD was easy to use and interesting, while teachers gave a practicality score of 87%. This practicality was assessed from the aspects of ease of navigation, availability of clear instructions, and conciseness of content. Setiawan & Winarna (2022) developed e-LKPD based on Science, Technology, Engineering, and Mathematics (STEM) for physics learning. Based on the practicality test conducted on grade XI students, the results showed that the product was considered very practical with an average score of 90.4%. Students stated that the e-LKPD was easy to access via personal devices and helped them understand concepts more visually. From the three studies, it can be concluded that the practicality of e-LKPD is determined by ease of access, simplicity of appearance, clarity of instructions for use, and the availability of interactive feedback. High practicality increases students' interest in learning and independence in the learning process.

The implementation of E-LKPD based on liveworksheets to improve student motivation and learning outcomes was carried out at SMPN 2 Marga in 1 class as a research subject, namely class IX C. The number of students was 32 people. The effectiveness of E-LKPD based on liveworksheets was carried out by taking 1 class that was given treatment by comparing the results of the pre-test with the results of the post-test after being given treatment. The results of the pre-test of student learning motivation before the treatment of E-LKPD Based on Liveworksheets at SMPN 2 Marga obtained a class average of 76 with a good category while the classical completeness was 78%. The category of success from the implementation of

the effectiveness of this study refers to a class average of at least 80 with a good category and a classical completeness of at least 90%. This means that the results of the pre-test showed that the success target had not been achieved so that it was necessary to implement the treatment of using E-LKPD Based on Liveworksheets at SMPN 2 Marga.

The implementation of Liveworksheets-Based E-LKPD at SMPN 2 Marga was carried out in 2 meetings by implementing Liveworksheets-Based E-LKPD totaling 4 sub-chapters. The results of the post-test on the implementation of Liveworksheets-Based E-LKPD at SMPN 2 Marga obtained an average class of 81 with a very good category while the classical completion was 91%. The category of success from the implementation of effectiveness refers to a minimum class average of 80 with a good category and a minimum classical completion of 90%. This means that the results of the post-test indicate that the success target has been achieved so that the use of Liveworksheets-Based E-LKPD at SMPN 2 Marga is declared effective.

The pre-test results of student learning outcomes before the treatment of Liveworksheets-Based E-LKPD at SMPN 2 Marga obtained a class average of 74 with a good category while the classical completion was 72%. The category of success from the implementation of the effectiveness of this study refers to a minimum class average of 80 with a good category and a minimum classical completion of 90%. This means that the pre-test results indicate that the success target has not been achieved so that it is necessary to implement the treatment of using Liveworksheets-Based E-LKPD at SMPN 2 Marga. The implementation of Liveworksheets-Based E-LKPD at SMPN 2 Marga was carried out in 2 meetings by implementing 4 sub-chapters of Liveworksheets-Based E-LKPD. The results of the post-test on the implementation of Liveworksheets-Based E-LKPD at SMPN 2 Marga obtained a class average of 85 with a very good category while the classical completion was 94%. The category of success from the implementation of effectiveness refers to a minimum class average of 80 with a good category and a minimum classical completion of 90%. This means that the post-test results show that the success target has been achieved so that the use of E-LKPD Based on Liveworksheets at SMPN 2 Marga is declared effective.

In the implementation of Liveworksheets-Based E-LKPD, there are several obstacles faced, including: 1) Liveworksheets limits the size of PDF files, images, or audio that can be uploaded. If the file is too large or the format is not supported, the upload process may fail. 2) An unstable internet connection is an obstacle to optimal use of e-LKPD. 3) Not all learning materials can be presented in an attractive form through Liveworksheets-Based E-LKPD. Some abstract concepts or materials that require direct experiments are difficult to integrate into digital format. This can reduce the effectiveness of E-LKPD in improving student understanding. 4) Technical obstacles such as difficulty in accessing the platform are also often encountered. If not resolved immediately, this can disrupt the learning process and make students reluctant to use Liveworksheets-Based E-LKPD. 5) Some students are still accustomed to conventional learning methods and are less motivated to use Liveworksheets-Based E-LKPD independently. The lack of direct interaction with teachers in e-LKPD-based learning can also reduce its effectiveness.

The solutions implemented to overcome the above obstacles include: 1) Dividing the E-LKPD link into 2 so that each has a maximum of 15 pages, so that access does not take too long. 2) Providing adequate internet access from the school so that the classes used in the study can use the Liveworksheets-Based E-LKPD properly. 3) The use of games, learning videos, and interactive simulations can increase the appeal of the Liveworksheets-Based E-LKPD. 4) Developing an offline version so that the Liveworksheets-Based E-LKPD can be developed in a format that can be accessed without an internet connection. 5) Maximizing independent learning so that students are motivated to use the Liveworksheets-Based E-LKPD. By implementing these solutions, it is hoped that the use of motivation to use the Liveworksheets-Based E-LKPD can be more effective and provide optimal benefits for learning.

Several previous studies have proven the effectiveness of motivated use of Liveworksheets-based E-LKPD in improving student learning outcomes. Several relevant findings were carried out (Laila et al., 2022), the use of multimedia-based e-LKPD can increase student involvement in learning and facilitate understanding of abstract concepts in science subjects. Research conducted by Rahmawati et al. (2020) shows that e-LKPD developed with a problem-based approach (PBL) can improve students' critical thinking skills compared to conventional LKPD. Handayani (2019) revealed that the integration of e-LKPD with learning platforms such as Google Classroom can increase student learning flexibility and accelerate feedback from teachers. A study conducted Hidayat et al. (2018) found that the main obstacle in using e-LKPD is limited access to technology in some areas, so it is necessary to develop an offline version to accommodate students with limited internet access. From the results of the study above, it can be concluded that E-LKPD has great

potential in increasing learning effectiveness, but still requires adaptation to various learning conditions. In addition to presenting the results and discussion, the following presents implications, research contributions, limitations, and suggestions.

a. Implications

Based on the results of research conducted at SMP Negeri 2 Marga, it was found that the use of Liveworksheets-based E-LKPD was able to improve learning motivation and learning outcomes of students in Social Sciences (IPS) subjects. These findings provide a number of practical implications as follows.

1) IPS teachers are expected to be more active in developing digital learning media, especially Liveworksheets-based E-LKPD, as part of an interactive learning strategy. The use of this media has been proven to be able to increase student participation and clarify learning materials visually and practically. Teachers can also utilize the automatic evaluation feature to provide quick feedback to students.

2) Students gain a more enjoyable and non-monotonous learning experience. E-LKPD encourages them to learn independently and actively, both in class and at home. Increased learning motivation will have a direct impact on improving learning outcomes, especially in understanding abstract IPS concepts.

3) Schools can consider supporting the development and use of E-LKPD as part of a policy to improve the quality of technology-based learning. Schools can also facilitate teacher training to strengthen competency in creating and using digital learning media.

4) Other studies interested in developing similar digital media in other junior high schools, both in social studies subjects and other fields of study, can explore the effectiveness of E-LKPD on other skills such as digital literacy, collaboration, and critical thinking of students.

b. Research Contribution

This study contributes in several important aspects, both theoretically and practically, which can be explained as follows.

1) Theoretically, this study enriches studies in the field of education, especially in digital-based social studies learning. The results of this study add scientific references related to the effectiveness of using Liveworksheets-based E-LKPD in improving student motivation and learning outcomes. Thus, this study also supports constructivist learning theories and educational technology that emphasize active student involvement through interactive digital media.

2) Practically, this study provides a real picture to teachers, especially at SMP Negeri 2 Marga, regarding the benefits of using Liveworksheets-based E-LKPD as a learning medium. Teachers can use these findings as a basis for innovating in the preparation and implementation of interesting and effective technology-based learning strategies. The results of this study can also be input for schools in developing policies to improve the quality of ICT-based learning. Schools can make Liveworksheets-based E-LKPD part of the learning digitalization program, especially in supporting the Merdeka Curriculum which emphasizes student-centered and technology-based learning.

c. Limitations

In conducting this research, the researcher encountered several limitations and obstacles that could affect the results and research process. The limitations and obstacles include:

1) Limited Access to Devices and the Internet

Although most students have access to devices such as smartphones, there are still some students who do not have personal devices and have to take turns using those of their parents or siblings. In addition, the quality of the internet network in several areas where students live, especially those in rural areas around Marga District, is unstable. This causes delays in students accessing or working on E-LKPD online.

2) Variation in Students' Digital Literacy Skills

There are differences in students' ability levels in operating digital devices and understanding the use of the Liveworksheets platform. Some students experience confusion when they have to fill in and submit worksheets online, such as forgetting to press the "submit" button or not understanding how to access worksheets via links shared by teachers. This causes the data obtained to not always be optimal at the beginning of use.

3) Teacher Adaptation to E-LKPD Development

Teachers who were partners in this study were previously not accustomed to using Liveworksheets as a learning medium. A short training process was carried out to help teachers understand how to create interactive E-LKPD, but time constraints meant that media development was not fully optimized, especially in terms of question variations, visualization, and integration with the curriculum material as a whole.

4) Limitations in Measuring Learning Motivation

Measurement of learning motivation was carried out using a questionnaire filled out by students independently. It is possible that some answers do not fully reflect the actual conditions, because students may provide answers that are considered "correct" or according to teacher expectations. This is a limitation in measuring the affective aspect objectively.

d. Suggestions

Based on the results of the research that has been conducted on the use of Liveworksheets-based E-LKPD to improve motivation and social studies learning outcomes at SMP Negeri 2 Marga, the researcher provides several suggestions as follows.

1) For Teachers

Social studies teachers are expected to continue to develop and utilize Liveworksheets-based E-LKPD as an interactive learning media that is in accordance with the characteristics of current students. Teachers also need to adjust the design of the E-LKPD with the learning materials and student ability levels so that the use of the media can run optimally.

2) For Students

Students are expected to utilize Liveworksheets-based E-LKPD as a means to learn independently and actively. Students also need to build awareness that full involvement in the use of digital learning media can help them understand social studies material better and improve learning achievement.

3) For Schools

Schools are expected to support the use of Liveworksheets-based E-LKPD by providing ICT-based learning facilities, such as adequate internet access and digital learning devices. In addition, schools can hold training for teachers to improve their competence in developing innovative digital learning media.

4) For Other Researchers

Other researchers are advised to further study the use of Liveworksheets-based E-LKPD on different IPS materials or at other levels of education. Further research can also be conducted with a broader qualitative or experimental approach to gain a deeper understanding of the effectiveness of this media on various aspects of learning, such as critical thinking skills or student collaboration.

D. Conclusion

Based on the results of the research and discussion, the following conclusions can be drawn.

1) The product produced is E-LKPD based on liveworksheets consisting of 4 (four) chapters, namely social change, changes in the era of modernization, globalization, and local wisdom. The design of the E-LKPD IPS consists of identity, learning objectives, activity instructions, materials, equipped with videos, and evaluation questions.

2) The validity of the product in this study includes content experts, media experts, and language experts. The results of the validation of material experts on E-LKPD based on liveworksheets show that of the eleven components in the material experts, the average is 95.45 indicating a very valid qualification. The results of the validation of media experts on E-LKPD based on liveworksheets show that of the ten components in the media experts, the average is 98.00 indicating a very valid qualification. The results of the validation of language experts on E-LKPD based on liveworksheets show that of the ten components in the material experts, the average is 97.50 indicating a very valid qualification.

3) Practicality test was conducted on teachers and students at SMP Negeri 2 Marga. The results of the teacher's practicality test on E-LKPD based on liveworksheets involving 2 reters obtained a total score of 2390 with an average of 95.60 qualifications indicating very practical. The results of the student's practicality test on E-LKPD based on liveworksheets involving 32 reters obtained a total score of 2347 with an average of 93.88 qualifications indicating very practical.

4) Product effectiveness was carried out by comparing the results of the pre-test and post-test before and after the treatment was given. The results of the pre-test of student learning motivation before the E-LKPD Based on Liveworksheets treatment at SMPN 2 Marga obtained an average class of 76 with a good category while the classical completeness was 78%. The results of the post-test on the implementation of E-LKPD Based on Liveworksheets at SMPN 2 Marga obtained an average class of 81 with a very good category while the classical completeness was 91%. The pre-test results of student learning outcomes before the E-LKPD treatment Based on Liveworksheets at SMPN 2 Marga obtained an average class of 74 with a good category while the classical completeness was 72% while the post-test results of the average learning outcomes were 85 with a very good category while the classical completeness was 94%. Based on the increase in pre-test and post-test results test itcan be concluded that Liveworksheets-based E-LKPD is effective for use in social studies learning.

E. Acknowledgment

F. Author Contribution Statement

IMW is responsible for formulating the background of the problem, research objectives, and compiling the theoretical framework underlying the study. In addition, the first author also plays a role in compiling the research design and determining the appropriate methodological approach. During the writing process, the first author also coordinates between team members and ensures the completeness of the administration and research ethics. INS plays an active role in the development of Liveworksheets-based E-LKPD media which is the main focus of this study. He is also involved in implementing media trials in the field, including data collection through observation, questionnaires, and learning outcome tests. In addition, the second author assists in quantitative data analysis and interpretation of research results to answer the formulation of the problems that have been set. IWM is responsible for conducting relevant literature studies and formulating theoretical foundations that support the development of E-LKPD. This author also plays a role in compiling the discussion section and refining the conclusions and suggestions of the research. In addition, the third author performs final editing of the manuscript to comply with the rules of scientific writing and the provisions of the intended journal.

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