Cypriot Journal of Educational Sciences

Volume 18, Issue 3, (2023) 605-621

www.cjes.eu

Usage digital storytelling based on local wisdom (DSLW): Improving story writing skills

Robiatul Munajah*, Jakarta State University, Faculty of Education, Jakarta 13220, Indonesia, https://orcid.org/0000-0002-3312-8225

Mohammad Syarif Sumantri, Jakarta State University, Faculty of Education, Jakarta 13220, Indonesia https://orcid.org/0000-0002-2862-9826

Yufiarti Yufiarti, Jakarta State University, Faculty of Education, Jakarta 13220, Indonesia https://orcid.org/0000-0003-1310-2607

Suggested Citation:

Munajah, R., Sumantri, M. S., & Yufiarti, Y., (2023). Usage digital storytelling based on local wisdom (DSLW): Improving story writing skills. *Cypriot Journal of Educational Science. 18*(3), 605-621. https://doi.org/10.18844/cjes.v18i3.8792

Received from January 05, 2023; revised from Febraury 13, 2023; accepted from April 06, 2023.

Abstract

This research aims to answer teachers' needs in utilizations DSLW to improve story writing skills for fourth-grade elementary school students. The research flow for developing teaching materials for researchers uses the Dick and Carey model. Effectiveness testing was conducted using an independent sample t-test to determine the effectiveness of digital storytelling products based on local wisdom (DSLW) to improve story writing skills. However, in the small group test, the product was revised before the large group trial was carried out; in the large group trial, the product was final and could be implemented in elementary schools.

Keywords: Digital Storytelling, Local Wisdom, Writing Skills.

* ADDRESS FOR CORRESPONDENCE: Robiatul Munajah, Jakarta State University, Faculty of Education, Jakarta 13220, Indonesia
E-mail address: robiatulmunajah_9919920014@mhs.unj.ac.id

1. Introduction

Background

Indonesian language learning, which is carried out in accordance with the achievement orientation of the learning objectives, will be able to encourage students to become proficient in Indonesian. Students who are proficient in Indonesian will find it easier and faster to learn and can get achievements. Learning Indonesian, which is oriented toward achieving language learning objectives, can hone their reasoning and train students to practice thinking coherently, orderly, and thoroughly. For elementary school students, it will be easier to reconstruct their memories of events or experiences through stimulation. One of the stimulations that can be used to improve memory related to language competence is through telling stories using digital storytelling teaching materials based on local wisdom in classroom learning.

The learning program is not just a series of topics/topics, but a topic that students must understand and master and can use in their lives. Basic education in Japan shows that previous conceptions about something that students have based on character and cultural background are important things in the learning process. Students of all ages have concepts about various phenomena that they bring to class (Widisuseno, 2019). The initial concepts possessed by these students can be sourced, among others, from cultural backgrounds, family, media, and other things. Students directly hear, see, experience, and, at the same time, use it. This concept proved to be very helpful and valuable in the context of his life, likewise with students' writing abilities. The right strategy will encourage writing skills to develop in accordance with learning objectives.

Writing is one of the most complex cognitive activities and involves many cognitive components (Olive, 2004). Individuals find their own thoughts and ideas that they really want to express in the creation of their stories through the writing process (Miller, 2010). With digital storytelling, students can learn the art of writing good stories, how text and art can be integrated, and how technology can be used creatively (Miller, 2010). In addition, when students are fully engaged in the writing process, they compose stories and participate in the digital story creation process more effectively by developing good scenarios (Xu & Baek, 2011). Previous research has shown that digital storytelling develops students' writing skills and can be used as an effective learning tool, especially in computer-assisted language acquisition (Tahriri, et al., 2015).

Changes in the learning paradigm during the pandemic in schools, especially elementary schools, have made fundamental changes, both in terms of objectives, processes, and learning outcomes. Limitations and even prohibitions for face-to-face learning force teachers to strive to create safe learning according to students' needs. So, digitalization in learning is a must. Based on observations in the field during both offline and online learning periods, researchers found that the learning process was still conventional; most teachers used books as the main medium that was often used in learning. Even though currently the implementation of education in the world has undergone drastic changes, previously face-to-face learning is now hybrid learning (Ololube, 2014), blended learning (Fong, 2007), and flipped learning (Casselman, et.al., 2020) has a significant impact on learning but demands digital skills and literacy for teachers and students (Grimaldi & Ball, 2019). This research is motivated by the current educational situation that requires technology-based learning innovations in elementary schools. One of them is by developing digital teaching materials.

The statement above is in line with the results of research regarding the use of information technology as a keyword in online learning to enable students to learn better, faster, and smarter

(Pujilestari, 2020). Another term is known as ICT (Information and Communication Technology). UNESCO revealed that there are several benefits that can be obtained by implementing information and communication technology in the education system, namely facilitating, and expanding access to educational networks, increasing educational equity, learning quality, teacher professionalism, and more effective and efficient management and governance of education (Adisel, 2020). People who are digital and information technology literate can be said to have adequate information and communication technology literacy (Tesi & Wilujeung, 2017). Teachers in the practice of implementing online and offline learning must also have sufficient information and communication technology literacy to facilitate the learning process, so teachers need special training to improve competence in information and communication technology (König & Glutsch, 2020).

Digital storytelling emerges from digital integration and storytelling to meet learning needs, such as communication and self-expression, and to facilitate teaching in improving language skills, one aspect of story writing skills. The results of previous research indicate that digital storytelling is effective in the development of cognitive structures, which, initially, the development process of cognitive structures is believed to develop over a long period of time. Therefore, this study reveals the contribution of digital storytelling to the development of visual memory, which has a positive impact on the development and acquisition of information and abilities acquired during the learning process (Sarica & Usluel, 2016).

Other research shows that digital storytelling in learning can evoke positive responses to engaging learning, and the use of digital storytelling is recommended for continuous integration into the curriculum, which further supports effective learning (Yocom & Cook, 2020). Media digital storytelling shows that it can increase self-confidence and open-mindedness. Research subjects become more aware of power, alternative voices, and potential choices for them (Chan, 2019).

Interactive computer-based applications are said to be suitable for use in elementary schools. This is supported by research results which show that in the learning process, computer-based media play an important role as current learning media. Computer-based applications are acceptable for use in learning because they can enhance the independent learning process and the active role of students (Rachmadtullah, et.al., 2018). This shows the need to develop storytelling developed in elementary schools to meet the needs of the learning process. Furthermore, research that reviewed 57 literature reviews showed that the use of digital storytelling showed continued interest in elementary and middle school students and higher education. The use of digital storytelling is also often used in learning. This study recommends further research related to digital storytelling for use in education (Wu & Chen, 2020).

Basically, the development of teaching materials is one of the obligations for teachers to become professional educators. One of the teaching materials includes learning media. Any learning media can be used to send messages to stimulate students' thoughts, feelings, concerns, and interests in such a way that the learning process occurs. In accordance with its function, learning media is basically to improve the quality of teaching and learning. Therefore, in the process of teaching and learning in schools, learning media has a very important role (Fahrurrozi, et.al., 2019). The development of learning media must pay attention to several things. The main principle of choosing instructional media is the effectiveness of learning media in achieving learning objectives and effectiveness in helping students understand the learning material that will be presented. We must consider whether the learning media that will be used is more effective when compared to other media. Learning media must also be selected based on the principles of the level of student thinking.

The third principle that must be considered in choosing media for classroom learning is interactivity and flexibility (Alexander, et.al., 2016). In this case, the researcher developed storytelling based on local wisdom in teaching materials designed to improve story-writing skills for elementary school students.

The teaching materials chosen by the teacher for teaching and learning activities in the classroom must have good interactivity and flexibility. Teaching materials are said to have good flexibility if they can be used in various situations. Thus, some of these things are used as a consideration for researchers to develop teaching materials in elementary schools. As knowledge and technology advance, teaching materials have developed to suit various situations (Huang, et.al., 2019).

The use of teaching materials is more effective if information can be seen, heard, and done. In this case, the researcher will develop language learning, especially aspects of writing stories for fourth-grade students in elementary schools. The use of digital storytelling shows that in the learning process, children quickly understand and adapt the various mechanisms behind the system to create their stories, mostly involved in creating narratives or playing language games with stories. This research describes the application of digital manipulative systems in an educational context, demonstrating that it is a useful tool that integrates into high-quality learning practices (Sylla, et.al., 2015).

There is an increase especially in abilities in the field of Information Technology, especially in the digital field, namely making videos using certain software, the ability to work together in groups, and the ability to make presentations in addition to speaking skills and vocabulary mastery (Asri & Perdanasari, 2017). Research shows that existence of digital-based media that has been implemented in elementary schools is in the form of presentation slides, instructional videos, and animated videos (Bron & Barrio, 2019). Digital storytelling is an interactive illustrated storytelling medium in the form of a combination of animated illustrated video, story text, and audio-visual so that learning will be more enjoyable and contextual (Anisimova, 2019).

The application of digital storytelling used by students makes students feel even happier and don't want to change lessons immediately. For this case study, the researcher included additional pictograms/pictures with vocabulary related to the cards used by the children. The idea is first to see if children know this vocabulary and if they don't, it is taught first by showing the corresponding word marks, and then they are asked to associate each word with a specific story card (scene). From now on, the teacher begins the process of teaching literacy from stories created by students and selected vocabulary that is selected based on the current knowledge and age of children's literacy (Flórez, et.al., 2019).

This research aims to improve the writing story skills of fourth-grade students in elementary schools by using DSLW to help students explore writing story skills. In the independent curriculum in Indonesia, the writing story skills of fourth-grade elementary school students are at the C4 cognitive level in bloom's taxonomy.

Research Questions

There are three research questions: How does the development, feasibility and effectiveness of digital storytelling based on local wisdom improve story writing skills of elementary school students?

2. Methods and Materials:

Research Design

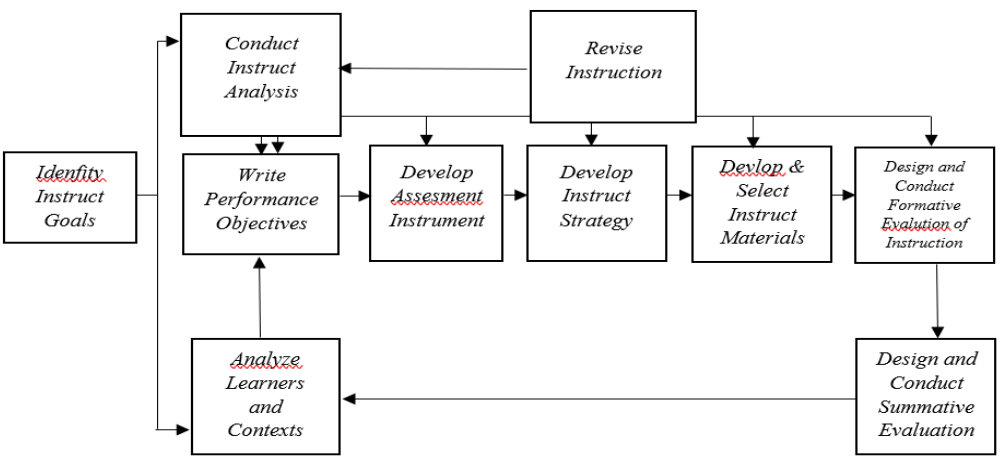
This study was designed using an approach to research and Development. R & D research methods are used to produce a product and test its effectiveness and feasibility. This research and development are used to develop or validate products used in education and learning. Aims to find, formulate, develop, produce, and test a superior, effective, and efficient product.

The data collection techniques are in the form of observation, interviews, questionnaires, and test methods. In comparison, the data analysis technique uses descriptive qualitative analysis and statistics briefly to test the effectiveness and feasibility of the product. There is also a qualitative analysis that uses an emic perspective in collecting data by disclosing it as it is so that the data obtained by the researcher is announced by the results obtained in the field without any interpretation in the form of numbers. In comparison, checking the validity of the data using data triangulation (Sugiyono, 2018). As for what will be developed in this research, storytelling digital based on local wisdom to improve story writing skills of elementary school students.

The steps that must be taken using the Research and Development method have 10 stages [28]. These stages are as follows:

Figure 1

Developmental Stages of Dick and Carey (2009)



Research Procedures

In developing digital storytelling teaching materials based on local wisdom using Dick and Carey's designs as follows:

a. *Identify Learning Objectives*
b. *Performing Instructional Analysis*
c. *Analyzing Student Characteristics and Learning Context*
d. *Analyzing Specific Learning Objectives*
e. *Develop Assessment Instruments*
f. *Develop Learning Strategies*

g. Developing and Selecting Teaching Materials
h. Designing and Implementing Formative Evaluations
i. Learning Product Revision
j. Designing and Implementing a Summative Evaluation

Research Data

a. Analysis of teaching material qualifications

Teaching materials storytelling digital based on local wisdom in the form of textbook material, audio, and video as well as student activity sheets were analyzed qualitatively for feasibility. Analysis percentage agreement carried out on the results of validation by experts, colleagues, and practitioners. The calculation percentage agreement is as follows (Borich, 1994).

Information:

A: Highest score among validators

B: The lowest score among validators

Qualitative analysis was carried out by expert validators, colleagues, and practitioners in the form of analysis of content, constructs, and suitability of teaching material storytelling digital with indicators of teaching material storytelling digital based on local wisdom using the Likert scale contained in the following table:

Table 1
Assessment Criteria

Interval			Score	Criteria
M + 1,5s	<	X	4	Very good
M + 0,5s	< X	M + 1,5s	3	Well
M – 0,5s	< X	M + 0,5s	2	Not good enough
M - 1,5s	< X	M – 0,5s	1	Not good

b. Analysis of Students' Story Writing Ability

Data analysis techniques includes quantitative data and qualitative data. The quantitative data referred to in this study and the results of the research/validation of the results of the ability to write stories through the T-Test. Furthermore, technical analysis of qualitative data was carried out by analyzing the results of questionnaires, interviews, and field notes on learning to write stories in elementary schools.

3. Results /Findings

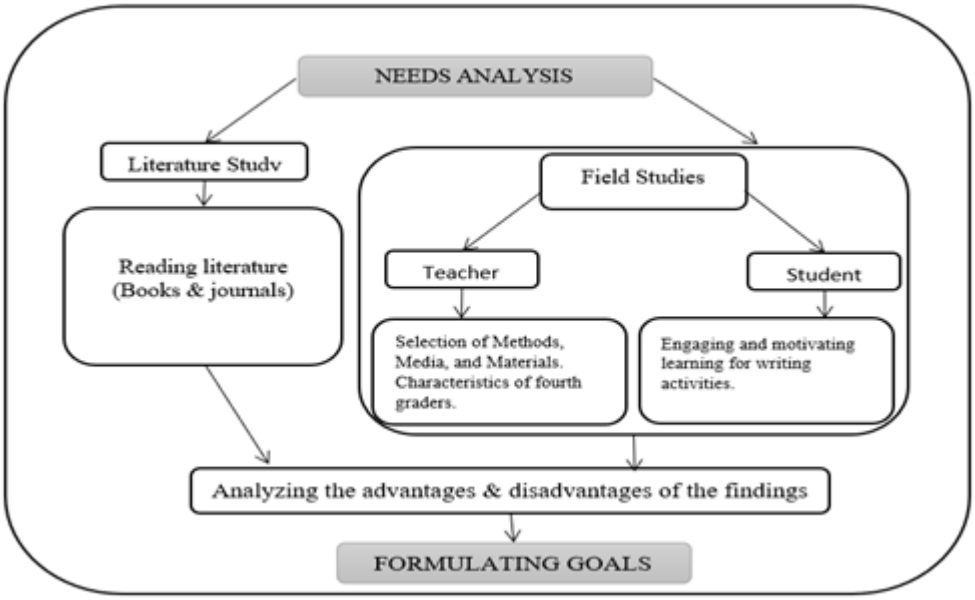
Teaching materials *storytelling digital* based on local wisdom developed by researchers to improve the story writing skills of fourth grade elementary school students is to use the stages of developing the Dick and Carey model with the following research results:

1. Identification of Learning Objectives

The stages of the preliminary study that researchers carried out related to the development of teaching materials*storytelling digital* based on local wisdom to improve the story writing skills of fourth grade elementary school students is in 2 ways, namely literature studies combined with field studies, through the action of needs analysis on the implementation of learning to write stories for

fourth grade students with observation techniques during learning *online* or *offline*, distributing questionnaires to students and teachers as well as conducting interviews with fourth grade teachers and the Principal to find out what achievements, competencies and obstacles occur in the process of learning activities in class, and the results of the needs analysis obtained can be used as a reference for developing teaching materials that can be improve the story writing skills of fourth grade elementary school students and can help achieve learning goals.

Figure 2.
Flow Design for Formulating Goals



2. Instructional Analysis

The instructional analysis stage of the researcher identifies and analyzes the ability of students to receive and understand material during the learning process. Researchers make observations during the learning process takes place and analyze the problems and potential abilities of students in carrying out effective learning. Based on the results of the instructional analysis, interesting facts were obtained which have been summarized in the table as follows:

Table 2.
Instructional Analysis Results

Category	Analysis Result
Learning Offline (off)	Teachers use print-based teaching materials, such as LKS books, textbooks, and story books. Students are assigned to copywriting from LKS or blackboard. Students are assigned to write the results of the teacher's dictation. Teachers are fixated on delivering teaching materials from books provided by the government. Students tend to be passive in learning. Learning to write is a boring activity for students. Teacher difficulties in developing innovative teaching materials.
Learning Online (on)	The teacher sends video teaching materials from YouTube or pictures via the WhatsApp group and LKS handbooks for each student.

	Students are assigned to copywriting from LKS. Students are assigned to write the dictation results of parents/companions. Teachers are fixated on delivering teaching materials from books provided by the government. Students tend to be passive in learning. Learning to write is a boring activity for students. Teacher difficulties in developing innovative teaching materials.

Based on the results of the data analysis, the use of teaching materials during learning offline and online *is* not much different from the use of media and teaching materials. These facts illustrate that learning offline or online requires innovation from an educator so that the learning process can run well and be fun for students so that instructional goals can be achieved.

3. Analysis of Student Characteristics and Learning Context

The steps taken in planning the development of teaching materials *storytelling digital* based on local wisdom, namely: needs analysis, goal/curriculum analysis, and analysis of the implementation of teaching materials. Related to this, the researcher collected initial data through observation, interviews and practice tests for students, the aim was to find out students' initial abilities in the aspect of story writing skills. Initial data results show the following:

Table 3.
Results of Preliminary Data Analysis of Students' Writing Ability

School	Aspect	∑Student	Positive Capable developing story writing	Percentage	Negative Not yet able to develop story writing	Percentage
SDN 7	Writing skills	10	2	20%	8	80%
SDN 2	Writing skills	24	8	33.33%	16	66.67%
Rate	26.67%		73,33%			

Based on the average results of the initial analysis of the two schools, an average of 26.67% was obtained for those who were able to develop stories, while 73.33% for those who were not able to develop stories. This shows that students still need to improve in the aspect of story writing ability. After carrying out the tests the researcher made observations on student characteristics, methods, media, materials, and exercises for students which were used by the teacher as a research framework for compiling teaching materials*storytelling* digital based on local wisdom.

4. Analysis of Specific Learning Objectives

The next stage is to analyze specific learning objectives by developing learning objectives based on the elements of achievement and learning outcomes of writing skills in the independent curriculum while still paying attention to ABCD (*Audience, Behavior, Condition, Degree*). A is *audience* namely students who will learn namely fourth grade students at elementary school, B is *behavior* is a specific behavior that will appear or increase after the learning process, in this study is story writing skills, C is *condition* namely the conditions or limitations imposed on students as a tool used in learning objectives, and then D is *degree* namely the level of success of students in achieving learning objectives.

5. Assessment Instrument Development

At this stage the researcher develops an assessment instrument, the purpose of the assessment instrument is as an evaluation tool in the use of teaching material products developed by researchers. In this case the researcher compiled an assessment instrument for writing story writing exercises for grade IV elementary school students in the form of*pretest postest* in the form of a description, as follows:

Table 4.

Learning Outcomes, Learning Objectives & Writing Practice

Learning Access	Learning Objective	Writing Practice
Students can write narrative texts, descriptive texts, recount texts, procedural texts, and exposition texts with a variety of sentences, detailed and accurate information on various topics. Students are skilled in cursive writing.	1. Identify main ideas and supporting ideas in a paragraph or text. 2. Participate actively in discussions. 3. Using "ADiKSiMBa" to compose writing.	1. Now listen to the story "Pandeglang City". Find the main idea and supporting ideas for each paragraph. Write them down in your books. Also write down the main idea of the text "Pandeglang City". You can make it like the example table. 2. Group assignments in writing essays! 3. Write an essay of three paragraphs about the recreational experience in the city of Pandeglang. Write them in your books. To guide you, answer the questions with all the question words: what, who, where, when, why and how.

6. Learning Strategy Development

Furthermore, at the stage of developing learning strategies, researchers develop appropriate strategies related to the teaching materials developed, namely teaching materials*storytelling digital* based on local wisdom. The choice of strategy certainly pays attention to the contextual approach, is not guided only by the delivery of material but rather looks at real learning process activities, pays attention to the characteristics of students, and is implementative in learning strategies related to the use of methods, media, materials and exercises for students as tools learning evaluation.

7. Developing and Selecting Teaching Materials

At the stage of developing and selecting teaching materials the researcher was guided by the independent curriculum teaching module which was developed and modified based on local wisdom stories of the city of Pandeglang. The researcher prepares teaching module references, prepares material designs, prepares teaching material designs with *google site*, compiling story scripts for the city of Pandeglang, designing learning videos *storytelling digital* based on local wisdom and develop evaluation tools for story writing skills for grade IV students and designed in the form of animated videos that are displayed on digital-based teaching materials by utilizing *google site*.

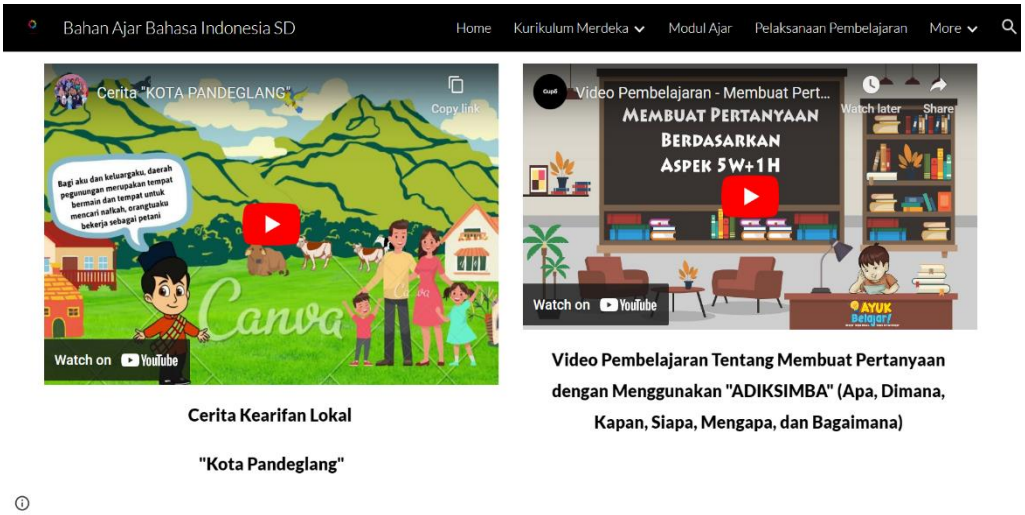
In the development of teaching materials *storytelling digital* based on local wisdom researchers use the Dick and Carey development model. The development of local wisdom-based digital storytelling teaching materials is as follows:

a. Instructional Material Design

The results of the design of digital storytelling teaching materials based on local wisdom are clearly formulated and arranged on a digital-based website by utilizing technology in the form of applications *canva, google site, flipbook*, VN *video editor* and media*youtube*. Digital storytelling

teaching materials based on local wisdom include: introduction to teaching materials, formulation of an independent curriculum, especially in the achievement elements of writing skills for grade IV students, complete learning modules with learning objectives in each chapter, implementation of learning which includes learning steps (preliminary activities, core activities, closing), learning videos*storytelling digital* based on local wisdom of Pandeglang, stories from Pandeglang City developed by researchers, exercises for students packaged in the form of animated videos so that they can attract students' attention in writing stories by developing stories from ADIKSIMBA questions (What; Where; Why; Who; Why and How) . The following shows the digital storytelling teaching materials based on local wisdom developed:

Figure 3.
Display of Digital Storytelling Teaching Materials



b. Teaching Materials Curriculum

The curriculum used in digital storytelling teaching materials is an independent curriculum used in elementary schools, especially in grade IV for aspects of writing skills. As for the achievement elements in the aspects of writing skills, students can write narrative texts, descriptions, recounts, procedures, and expositions with various sentences, more detailed and accurate information on various topics. Students are increasingly skilled in cursive writing. The following is a display of learning outcomes in digital storytelling teaching materials based on local wisdom:

Figure 4.
Display of Learning Outcomes in Teaching Materials

8. Designing and Implementing Formative Evaluations

Expert validation was carried out just before the pilot session, digital storytelling teaching materials developed by researchers were tested for validation first by para*sexpert* according to scientific experts. The expert validator chosen by the researcher has a background relevant to the teaching materials developed by the researcher, has an overseas doctoral education in the field of media, then the next validator is a domestic doctorate in the field of Indonesian Language Learning and the last is a domestic doctor in the field of Education learning strategies Basic, so that in the validation of teaching materials*storytelling* digital based on local wisdom in this study was conducted by 9 validators. Meanwhile, five practitioners were considered as contributors in the field, consisting of one supervisor, two principals and two fourth grade teachers from two elementary schools. Following is the recapitulation of evaluation results and validators, as follows:

Table 5.
Recap of Validation Results

Aspect	Indicator	Question item	Average Value	Criteria
Teaching Material Media Qualification	Media Format, Content, Layout/Illustration, Usage Language/Writing, Benefit.	5	3,4	Good
Feasibility of Teaching Materials	learning achievement format, purpose, material, time allocation, language/writing, benefit.	7	3,6	Good
Qualifications Language in Teaching Materials	Format Language, Content, Language and Writing.	3	3,5	Good
	Average		**3,5**	Good

The results of pretest-posttest story writing skills in grade IV students at SDN 7, as a small group trial are as follows:

Table 6.
T-test with small group trials

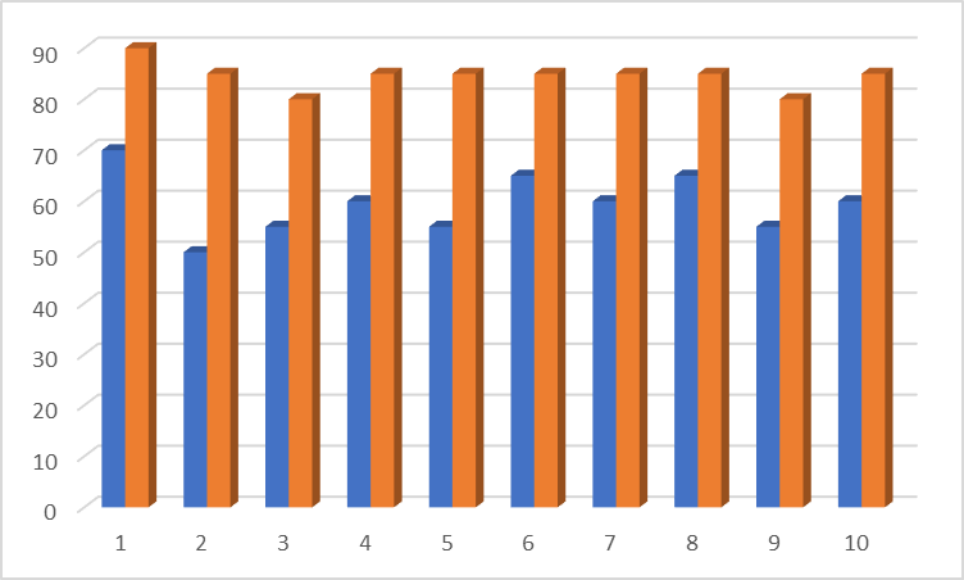
		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Posttest	84.5000	10	2.83823	.89753
	Pretest	59.5000	10	5.98609	1.89297

The comparison of student scores from the pretest and posttest can be shown in the following diagram:

These results indicate an increase even though it has not been seen significantly, therefore the authors feel the need to improve teaching material product storytelling digital based on local wisdom. In terms of learning video media, there are several suggestions from practitioners in elementary schools, namely regarding the suitability of the material in the video storytelling digital with the

development of grade IV elementary school-age children and grammar that is more contextual with the world of children.

Figure 5.
Diagram of small group trial results



9. Learning Product Revision Results

Based on the results of expert validation, test the readability of teaching materials by students and try out small group teaching materials *storytelling* Digital based on local wisdom is repaired in accordance with the advice and instructions of experts during the validation session and input from the teacher and student responses, so that the product teaching materials *storytelling digital* based on local wisdom reached the final product for use in large group trials.

10. Designing and Implementing a Summative Evaluation

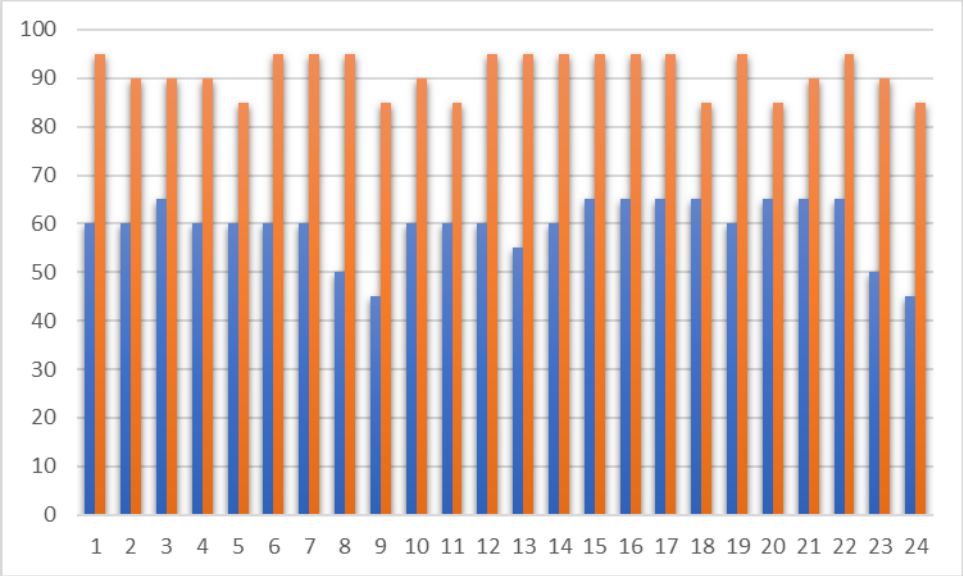
Furthermore, in the final stage of designing and carrying out a summative evaluation, namely the product that has been repaired at the product revision stage after a formative evaluation has been carried out, it can be used in large-scale trials to test the effectiveness of products developed by comparing the learning process that was carried out before.

Table 7.
T-test with large group trial

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Posttest	91.2500	24	4.23495	.86446
	Pretest	59.3750	24	6.13481	1.25226

The comparison of student scores from the pretest and posttest can be shown in the following diagram:

Figure 6.
Diagram of the results of the large group trial



From the data above it can be seen that there was an increase in the class average from a score of 60 to 90, this means that the teaching material storytelling digital based on local wisdom can support the improvement of story writing skills for grade IV Elementary School students because strengthening activities is fun and gives freedom to students to actualize themselves in writing stories with ADIKSIMBA questions.

Likewise, it can be seen in Maslow's hierarchy regarding the design of self-actualization, especially at the age of children who still always have awe, until when the desire for self-actualization is realized so that a person will be able to be himself until then self-potential emerges which can be so far hidden. The writing activity at this step takes that idea, apart from that more and more studies explain that expressing*recite*) in the form of writing activities that have been studied will help students to better understand and remember them.

4. Discussion

Development of teaching materials storytelling *digital* Based on local wisdom, researchers use the Dick and Carey model with ten stages of research. At stages eight and ten, formative and summative evaluations were carried out, from these evaluations input and suggestions were obtained both theoretically and practically. The expert validation process involved nine experts consisting of three media experts, three material experts and three language experts.

Based on input and suggestions from experts, the researchers revised the product before it was tried out in elementary schools. In addition, researchers conducted peer assessments and elementary school teacher education practitioners to provide input and suggestions for teaching materials developed by researchers. Furthermore, the process of testing readability by students and small group trials, after revising the teaching materials according to input and suggestions in the formative evaluation process, the researcher proceeded to the last stage in this study, namely summative evaluation, namely large group trials.

Results of large group trials at Kabayan 2 Pandeglang public elementary school using teaching material storytelling *digital* based on local wisdom show an increase in aspects of writing skills in fourth-grade students, the results of trials in elementary schools prove the development of digital storytelling teaching materials based on local wisdom is effectively used in elementary schools. This is in line with the results of research by the learning process assisted by learning video models can improve creative thinking skills in students, and the creative thinking aspect in this study is in line with the creativity of students in story writing activities (Harjono, et.al., 2022). Furthermore, the use of technology in learning today can support the effectiveness of learning, with the use of technology that is currently developing in a positive direction, of course, it can minimize the negative impact of the rapid development of technology (Sari, et.al., 2021). This statement certainly supports research on the development of teaching material storytelling *digitally* based on local wisdom, in this study researchers utilized digital media technology to access teaching materials, and researchers developed learning video media technology storytelling *digitally* published online channel *youtube* so that the benefits of learning media can also be felt by many people.

The development of teaching material storytelling *digitally* which also includes learning video media, is in line with the opinion of Heinich, Molenda, et al., (2001) and Edgar Dale (1969), who argue that learning interactions will be successful if using the right learning media, according to the needs and learning objectives of one of the learning media that can be utilized in digital media in the form of learning videos, audio-visual, and animation. This statement is also in line with Lee, *storytelling digital* is one that is created by combining many digital media elements such as sound, images, and videos to aid the learning process (Lee, 2014).

Instructional videos are often provided free of charge through video services such as youtube and other video media services that are increasingly accessible via browser *internet (Ohler, 2013)*, then, Frazel says that storytelling *digital* is a method of combining several media to enrich and enhance the written or spoken word. So, the development of teaching materials storytelling *digital is* very well used in elementary schools to improve writing skills and of course, it can also be used for other aspects of skills in students in elementary schools (Frazel, 2010).

5. Conclusion(s)

Researchers develop teaching materials *storytelling digital* based on local wisdom to improve story writing skills for fourth-grade elementary school students which are compiled in digital form by utilizing technological assistance such as google *site, canva, VN video recording, flipbook,* and YouTube. In implementing the Dick and Carey steps, several developments were made as an innovative value in research. The innovative value of this research lies in the integration of local wisdom into teaching materials and is developed following the needs and current technological developments in learning activities in elementary schools. In the aspect of teaching modules, substance, media, and exercises are arranged in teaching materials *storytelling digital* different from what is commonly used in schools, of course, the teaching materials were developed by researchers considering the needs and characteristics of fourth-grade elementary school students.

6. Recommendations/Future directions

Researchers need to conduct further studies and developments by following up on several findings related to the development of digital storytelling teaching materials based on local wisdom and conducting research on other facts as derivatives of findings in the field.

References

Widisuseno, I. (2019). Pola Budaya Pembentukan Karakter Dalam Sistem Pendidikan Di Jepang. Kiryoku, 2(4), 48. DOI: 10.14710/kiryoku.v2i4.48-57

Olive, T. (2004). Working memory in writing: Empirical evidence from the dual-task technique. In European Psychologist (Vol. 9, Nomor 1, hal. 32–42). Hogrefe Publishing GmbH. https://doi.org/10.1027/1016-9040.9.1.32

Miller, L. (2010). Make me a story: Teaching writing through digital storytelling. https://books.google.com/books?hl=en&lr=&id=dIINvn2RGUAC&oi=fnd&pg=PT8&ots=LJIT6JEgQz&sig=0Mie-FPxxfloeUiuAzh73cRjEN0

Xu, Y., Park, H., & Baek, Y. (2011). A New Approach Toward Digital Storytelling: An Activity Focused on Writing Self-efficacy in a Virtual Learning Environment. https://www.jstor.org/stable/jeductechsoci.14.4.181

Tahriri. A, Danaye Tous. M, MovahedFar.S., (2015). The Impact of Digital Storytelling on EFL Learners' Oracy Skills and Motivation. International Journal of Applied Linguistics and English Literature. https://doi.org/10.7575/aiac.ijalel.v.4n.3p.144

Ololube, N. P. (2014). Advancing technology and educational development through blended learning in emerging economies. Advancing Technology and Educational Development through Blended Learning in Emerging Economies, I, 1–279. https://doi.org/10.4018/978-1-4666-4574-5

Fong, J. (2007). Blended Learning (Issue July 2014). ResearchGate. https://www.bing.com/search?q=Fong%2C+J.+%282007%29.+Blended+Learning+%28Issue+July+2014%29.+ResearchGate.&qs=n&form=QBRE&sp=-1&pq=fong%2C+j.+%282007%29.+blended+learning+%28issue+july+2014%29.+researchgate.&sc=0-66&sk=&cvid=99153477D3EA41C88C33A9C7A273DC.

Casselman, M. D., Atit, K., Henbest, G., Guregyan, C., Mortezaei, K., & Eichler, J. F. (2020). Dissecting the Flipped Classroom: Using a Randomized Controlled Trial Experiment to Determine When Student Learning Occurs. Journal of Chemical Education, 97(1). https://www.bing.com/search?q=Casselman%2C+M.+D.%2C+Atit%2C+K.%2C+Henbest%2C+G.%2C+Guregyan%2C+C.%2C+Mortezaei%2C+K.%2C+%26+Eichler%2C+J.+F.+%282020%29.+Dissecting+the+Flipped+Classroom%3A+Using+a+Randomized+Controlled+Trial+Experiment+to+Determine+When+S

Grimaldi, E., & Ball, S. J. (2019). The blended learner: digitalization and regulated freedom - neoliberalism in the classroom. Journal of Education Policy, 00(00), 1–24. https://doi.org/10.1080/02680939.2019.1704066.

Pujilestari, Y. (2020). Dampak Positif Pembelajaran Online Dalam Sistem Pendidikan Indonesia Pasca Pandemi Covid-19. Adalah, 4(1), 49–56. http://journal.uinjkt.ac.id/index.php/adalah/article/view/15394/7199

Adisel, Gawdy, A. P. (2020). Penggunaan Teknologi Informasi dan Komunikasi dalam Sistem Manajemen Pembelajaran pada masa Pandemi Covid 19. ALIGNMENT: Journal of Administration and Educational Management, 3(1), 1–10. https://journal.ipm2kpe.or.id/index.php/ALIGNMENT/article/v.

Tesi Muskania, R., & Wilujeng, I. (2017). Pengembangan Perangkat Pembelajaran Project-Based Learning untuk Membekali Foundational Knowledge dan Meningkatkan Scientific Literacy. Jurnal Cakrawala Pendidikan, 36(1). https://doi.org/10.21831/cp.v36i1.8830

König, J., Jäger-Biela, D. J., & Glutsch, N. (2020). Adapting to online teaching during COVID-19 school closure: teacher education and teacher competence effects among early career teachers in Germany. European Journal of Teacher Education, 43(4), 608–622. https://doi.org/10.1080/02619768.2020.1809650

Sarica, H. Ç., & Usluel, Y. K. (2016). The effect of digital storytelling on visual memory and writing skills. Computers and Education, 94, 298–309. https://doi.org/10.1016/j.compedu.2015.11.016

Yocom, D., Bashaw, C., Price, D., & Cook, M. (2020). Perceptions of digital storytelling in the classroom. Teaching and Learning in Nursing, 15(3), 164–167. https://doi.org/10.1016/j.teln.2020.01.010

Chan, C. (2019). Using digital storytelling to facilitate critical thinking disposition in youth civic engagement: A randomized control trial. Children and Youth Services Review, 107, 104522. https://doi.org/10.1016/j.childyouth.2019.104522

Rachmadtullah, R., Zulela, M. S., & Sumantri, M. S. (2018). Development of computer-based interactive multimedia: Study on learning in elementary education. International Journal of Engineering and Technology (UAE), 7(4), 2035–2038. https://doi.org/10.14419/ijet.v7i4.16384

Wu, J., & Chen, D. T. V. (2020). A systematic review of educational digital storytelling. Computers and Education, 147, 103786. https://doi.org/10.1016/j.compedu.2019.103786

Fahrurrozi, Hasanah, U., & Dewi, R. S. (2019). Integrated Learning Design Based on Google Classroom to Improve Student Digital Literacy. 2019 5th International Conference on Education and Technology, ICET 2019, 108–111. https://doi.org/10.1109/ICET48172.2019.8987219

Alexander, B., Adams Becker, S., & Cummins, M. (2016). Living with New Technologies. Scientific American, 273(3), 190–205. https://doi.org/10.1038/scientificamerican0995-190

Huang, H., Wang, X., Hu, M., & Tao, Y. (2019). Applied to Mobile Multimedia Intelligent Speech System Interactive Topic Guiding Model. IEEE Access, 7, 182348–182356. https://doi.org/10.1109/ACCESS.2019.2959906

Sylla, C., Coutinho, C., Branco, P., & Müller, W. (2015). Investigating the use of digital manipulatives for storytelling in preschool. International Journal of Child-Computer Interaction, 6, 39–48. https://doi.org/10.1016/j.ijcci.2015.10.001

Asri, A. N., Indrianti, T., & Perdanasari, N. (2017). BAHASA INGGRIS DI PROGRAM STUDI MANAJEMEN INFORMATIKA. Jurnal Ilmiah Edukasi & Sosial, Volume 8, 81–89. PENERAPAN DIGITAL STORYTELLING DALAM PEMBELAJARAN BAHASA INGGRIS DI PROGRAM STUDI MANAJEMEN INFORMATIKA (researchgate.net)

Bron, M., & Barrio, M. G. (2019). Project-Based Learning for Teaching Transmedia Communication. Journal of Problem-Based Learning in Higher Education, 7(1), 141–151. https://doi.org/10.5278/ojs.jpblhe.v7i1.2405

Anisimova, E. S. (2020). Digital literacy of future preschool teachers. Journal of Social Studies Education Research, 11(1), 230–253. Digital Literacy of Future Preschool Teachers |

Anisimova | Journal of Social Studies Education Research (jsser.org)

Flórez-Aristizábal, L., Cano, S., Collazos, C. A., Benavides, F., Moreira, F., & Fardoun, H. M. (2019). Digital transformation to support literacy teaching to deaf Children: From storytelling to digital interactive storytelling. Telematics and Informatics, 38, 87–99. https://doi.org/10.1016/j.tele.2018.09.002

Sugiyono. (2018). Metode Penelitian Kuantitatif, Kualitatif, dan R&D. Bandung: Alfabeta.

Dick, Walter, and Lou Carey. (2009). The Systematic Design Of Instruction. New Jersey: Pearson.

Borich, (1994). Observation Skills for Effective Teaching. Merril: The University of Michigan.

Harjono, A., Andani, T. G., Gunada, I. W., & Susilawati, S. (2022). Implementation of Blended-Flipped Classroom Model Assisted by Video to Improve Students' Creative Thinking Skills. Jurnal Penelitian Pendidikan IPA, 8(6), 3180-3186. https://doi.org/10.29303/jppipa.v8i6.2255

Sari, Y., Sari, R. P., Sumantri, M. S., & Marini, A. (2021, March). Development of digital comic for science learning in elementary school. In IOP Conference Series: Materials Science and Engineering (Vol. 1098, No. 3, p. 032060). IOP Publishing. doi:10.1088/1757-899X/1098/3/032060

Heinich, R., Molenda, M., Russell, J. D., & Smaldino, S. E. (2001). Instructional media and technologies for learning (7th ed.), Englewood Cliffs, NJ: Prentice Hall.

Dale, E. (1969). *Audio-visual methods in teaching* (3rd ed.). New York: Holt, Rinehart, and Winston.

Lee, L. (2014). Digital news stories: Building language learners' content knowledge and speaking skills. Foreign Language Annals, 47(2), 338–356. https://doi.org/10.1111/flan.12084

Ohler, J. B (2013). Digital storytelling in the classroom: new media pathways to literacy, learning, and creativity. USA: Corwin Sage Company.

Frazel, M. (2010). Digital Storytelling: Guide for educators. Washington: International Society for Technology in Education. Doi: 10.12691/education-4-14-1.