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The Implementation of Problem Based Learning Model to Develop Writing Skills through Digital Culture Innovation

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Abstract

Problem Based Learning is a set of teaching methods that center on problems in order to foster problem-solving skills, content, and self-regulation skills. There are 5 phases in implementing PBL, namely (1) orienting students to problems; (2) organizing students to research; (3) assisting independent and group investigations; (4) developing and presenting works; (5) analyze and evaluate the problem-solving process. The problems used in PBL are problems encountered in the real world. Even though each student requires individual abilities, in the learning process in PBL students' study in groups to understand the problems they face. Writing is one of the four language skills that students must learn. Writing is an activity as well as an integrated skill, even writing is always there in every lesson, just like reading. Writing is like a sword that has two sharp edges, learning to write and writing to learn. Int research designs are particularly appropriate for use in the fields of social science and language because these fields adapt to a wide range of human behaviour, language learning, and language behavior. To measure the outcome of writing skills used a qualitative approach. Descriptive analysis techniques were used to analyze qualitative data, and statistical analysis techniques, namely the t-test, were used to analyze quantitative data.

Keywords: Application; problem based learning models; writing skills; transformation; digital applications

1. Introduction

The development of literary writing today is closely intertwined with technological influences. The ever-advancing technology has significantly impacted the media and evolution of literature. Anantama [1] states that literature has not escaped the influence of technological advancements. This can be observed through the existence and growth of digital literature via digital media, such as the internet and social media. However, long before the digital era, literature has existed since ancient times when technology was not as advanced as it is today.

Writing is one of the four language skills that students must learn. Writing is an integrated activity and skill, much like reading, and it is present in every learning process. Writing is like a double-edged sword: we learn to write, and we write to learn. When we want to write, we know what we will write, but as we write, we discover new knowledge that we initially did not know [2].

The fact is that many students still struggle to start their writing. Therefore, educators must be able to provide assistance and facilities to students to ensure effective and goal-oriented learning. Graves [3] reveals that reasons for hesitating to start writing include difficulty initiating writing, trouble defining writing objectives, and lack of knowledge about how to write.

There are various ways educators can help students produce writing, one of which is through application development. Developing applications can assist educators as teaching tools and aid learners in facilitating their learning. This report discusses applications such as Story Plotter, Wattpad, Webtoon, and Fizo. These applications are designed to help individuals (students) write systematically. Therefore, this report will delve into the details of digital applications, examining their strengths, weaknesses, and how to use them.

This study focuses on students' ability to write literature using digital applications. It aims to assist students who encounter difficulties in literary writing. In the current era, as we enter the realm of new media, the concept signifies the transition from manual to automatic (online) and from complexity to simplicity, driven by technological and scientific advancements. One of the most beloved forms of new media is social media.

Social media is highly beneficial for communication, education, recreation, promotion, dissemination, interaction, and more. It is an internet-based platform that enables users to create and share content (information, opinions, interests) in diverse contexts (informative, educational, satirical, critical, and more) to a wider audience. As a result, social media has a chain effect, and the transmission process extends beyond a primary audience.

Meanwhile, digital culture is a concept that describes how technology and the internet significantly shape our interactions, behaviours, thoughts, and communication as individuals within society. Enhancing digital culture is crucial for streamlining work, expanding reach, fostering innovation and creativity, flexibility, broadening networks, and extending business opportunities.

One of the earliest manifestations of digital culture is blogging. Blogging marked the beginning of digital culture and has continued to evolve alongside internet advancements. Economic, educational, career, and entertainment activities are effectively managed in the digital world. The use of information and communication technology to provide educational services holds promising potential for enhancing learning outcomes. Advantages include more digital, flexible curricula that can reach a larger number of students.

Distance learning has long been utilized abroad but remained relatively unfamiliar and underutilized in Indonesia. However, due to the pandemic, we were forced to shift to remote learning, making all activities internet-connected. As a result, distance learning suddenly became the norm. While it has many advantages, the adjustment period made it challenging for some individuals. The current acceleration of digital transformation is not only about changing face-to-face work to online, but also about leveraging digital technology to simplify tasks and enhance social interactions. Digital culture has positively impacted global society by making information more accessible and activities more efficient. Nevertheless, it is important to be aware of the potential negative consequences if this activity is not accompanied by digital competence.

Without critical thinking, for instance, if one receives information from a family WhatsApp group and immediately believes and shares it, friends may develop negative perceptions, become susceptible to hate speech, and easily spread misinformation. Digital literacy skills must continue to be honed for personal needs. Before digital culture emerged, oral and written traditions coexisted and should continue to do so. However, the reality is that written culture has not fully taken root in Indonesia and has been introduced through digitization. To support digital literacy, revitalizing interest in reading and writing within digital platforms is essential.

This culture can be revived through increased reading. Reading exposes us to various knowledge that influences our writing skills, enabling us to use fitting and engaging diction. Practicing by writing short sentences, perhaps through translating posts, can follow. Learning to summarize readings and continue others' writing can also contribute to improving writing skills. Additionally, to expand knowledge about writing, participating in writing forums can be beneficial.

By engaging in these practices, we can overcome difficulties in choosing topics and enriching diction. Proficient writing molds structured thinking and arguments, creates an interesting and communicative persona, and fosters a developed imagination. Therefore, in this era of disruption, individuals should strive to stay motivated in addressing the demands of our times and the advancement of knowledge.

In terms of digital ethics, balancing reason and emotion is key. Being ethically responsible in the digital realm involves critical thinking, problem-solving, communication, and collaboration. Building an ethical system starts from within oneself. Innovations to enhance online learning are important, but at its core, both learners and educators must recognize their fundamental ethical responsibilities in social interactions.

Arif adds that being mindful of not disturbing or demeaning others in the digital space is essential. Educators' duty is to prepare students to be valuable members of society through technological progress. By embodying these principles, we become self-aware and cultivate self-esteem, contributing to maintaining order in the digital domain. In distance learning, the ethos, ethics, and ethics principles should be upheld, ensuring alignment between mind, body, and soul to adapt to changing learning methods during the pandemic.

Furthermore, creativity in remote learning, combined with technological collaboration, can be achieved through utilizing tools like Skype for history lessons, Google Classroom for chemistry, Google Maps for geography, stop-motion videos for technology lessons, and educational games to captivate students' attention during learning.

2. Research Method

This study was conducted using an experimental method because the research aimed to find the influence of one variable on another variable, according to Sudjana [19]. Experimental research consists of three main characteristics, namely: (1) the presence of a manipulated independent variable, (2) the control or management of all other variables except the independent variable, and (3) the observation or measurement of the dependent variable as the effect of the independent variable, according to Sudaryanto's opinion [19].

In this study, the research design used is a pretest-posttest with a control group (Control Group Pretest Posttest Design). The pretest is used to measure students' initial ability in writing short stories, while the posttest is used to measure students' final ability in writing short stories after being treated with the use of the Story Plotter method. Additionally, this research employs a qualitative method, as it requires hypotheses and is used to determine the influence of the independent variable (treatment) on the dependent variable (outcome) under controlled conditions.

3. Results and Discussion

Yaumi [4] revealed that instructional media is a component of something physical, capable of conveying information, and designed in a sequential or systematic and coordinated manner to establish effective communication (between educators and students). Furthermore, Benny [5] stated that media represents information in the form of knowledge that can be utilized with the intention of enhancing the effectiveness and efficiency of the teaching and learning process (KBM).

The characteristics of instructional media according to Daryanto [6] encompass three types, which are as follows:

- Fixative, meaning that instructional media can provide something that can be captured by the senses, stored, and display the representation of an event. This implies that instructional media can be photographed, recorded, stored, and replayed if needed.
- Manipulative, signifying that instructional media has the ability to be modified or altered according to needs.
- Distributive, indicating that instructional media can provide extensive or multiple coverage to students in a single presentation.

The functions of instructional media are diverse, including according to Rowntree, there are six functions of media, namely:

- Stimulating learning motivation,
- Reinforcing what has been learned,
- Providing learning stimuli,
- Activating student responses,
- Providing immediate feedback, and
- Promoting harmonious practice.

Writing skill is an individual's ability to express ideas in a piece of writing. Writing is an activity that gives birth to thoughts and emotions through the written word. It can also be understood as a form of communication, where thoughts, feelings, and intentions are expressed to others in written form. "Writing is a language skill that involves an individual's ability to articulate ideas, emotions, and thoughts to others or other parties using a written medium." "Writing is a communicative activity involving the conveyance of messages (information) in written form to others using written language as a tool or medium" [7].

Writing is one of the skills that is not mastered by everyone, especially writing in an academic context, such as writing essays, scientific papers, research reports, and so on. Therefore, writing activity is a challenging task, especially when it comes to creating works that are factual and scientific in nature, such as writing complex explanatory texts [7].

In general, the purpose of writing is to inform, persuade, express oneself, and entertain. The purpose of writing is to engage readers in thinking and reasoning, to make readers aware of the information presented, to encourage readers to form opinions, to help readers understand, to capture readers' interest with the content of the composition, and to make readers appreciate the values expressed such as truth, religious values, educational values, social values, moral values, human values, and aesthetic values.

Literary works are expressions of the author's soul or aesthetic experiences. The expressions that can be conveyed may take the form of social interactions among fellow humans, the environment, and the Divine. In the realm of education, digital technology is believed to enhance the competence of learners in constructing their learning methods freely and developing their multi-modal skills. The accelerated exploration of digital literature and hermeneutics through digital technology represents a new approach and experiment [8]. This will be needed by nearly all members of society and learners in the era of globalization. In the current Industry 5.0 revolution era, the use of technology is not uncommon for educational practitioners, including teachers, students, and other educational tools. According to Syamsuar et al. [9], in general, the definition of the industrial revolution is when significant technological advancements are accompanied by changes in this era. One transformation that has occurred is the synergy between literature and the significant socio-economic and cultural fields. It is only fitting that the revolution in education is experienced through various print media, but in this era, alternative digital literature has emerged to develop education associated with multicultural education. Its presence becomes a multicultural tool.

One example of literature is Salman Rushdie, a writer who has received education in the West and was born in India. He can serve as an example of the statement above. His writings largely reflect his own life experiences, starting from his first novel published in 1975 (*Grimus*) to his latest novel, *The Golden House* (2017). Therefore, the author's background greatly contributes to the flavor of his literary works. Due to its function, literature will remain a timeless choice. According to Wellek and Warren [10], "Literature functions to provide pleasure and benefits for the enjoyment of literary works." Therefore, these two aspects must not only exist but also complement each other. The pleasure derived from literature is not like other physical pleasures, but rather a higher pleasure, namely contemplation that seeks no material gain. As for its benefits, they are seriousness, didacticism, enjoyment, aesthetics, and perception. Literary works themselves are an art form that encompasses numerous human elements and carries the intention of the writer for aesthetic purposes.

Additionally, literary works can convey personal expressions of human experiences, thoughts, feelings, ideas, spirit, and beliefs in the form of written representations of life. Generally, there are several widely recognized types of literature such as prose, novels, short stories (short stories), poetry, and rhymes. However, as a whole, these types of literary works are categorized into various genres. These different types of literary works have their own distinct characteristics and cannot be considered the same.

Cyber literature originated from the concept of digital literature, encompassing all forms of literary works created and facilitated by computer media, accessible online. Digital literature, or cyber literature, is a literary work published in online media in line with the advancement of knowledge and technology in various countries around the world. The reception process of literature is conducted within networks [11]. This literature includes literary texts in the form of prose and poetry uploaded on various homepages, both by professional and novice writers. The presence of digital literature has given rise to a new literary genre due to its distinct medium, writing techniques, reader reception, and the formation of a new reader horizon [12]. Literary writers are individuals with a strong interest and insight in writing literary works. The same goes for digital literary writers. Digital literary writers are also referred to as "*sastrawan*" because they are writers or authors of literary works. Digital literary writers can be considered fortunate in the present era, as they do not face the challenges that previous authors or literary writers experienced, such as the frustration of frequent rejection by publishers, including book publishers, newspapers, and magazines [13].

There are three types of digital literary media that can be used, namely the Story Plotter Application, which is developed and offered by Ceatersupporter. The Story Plotter Application can also assist the subject of the report (students) in writing stories with various plots that enhance the appeal of the writing. Additionally, a key feature of the application is the plot notes accompanied by various details about the characters to be included in the story. Finding the right characters to include in the story is crucial, as it influences the author's ability to deepen the created narrative.

Wattpad is one of the online platforms intended for users who enjoy writing, whether it's creating articles, short stories, serialized stories, or poetry. Users can try their hand at writing on Wattpad. Wattpad can serve as a place to hone writing skills. Through Wattpad, users can also exchange ideas about writing or readings. It also contributes to expanding knowledge about writing through reading stories. If lucky, having a substantial number of viewers and receiving appreciation for one's work on this platform is possible [14].

Webtoon comics contain content that gradually transitions into the focus of media. Initially a print medium, comics are now electronically distributed through the Internet, and today the Internet is transforming the essence of the industry and the way books are sold. Until now, comics were only printed as fillers in books and newspapers, and were also released in the form of animated movie. However, because the Internet has become the top choice for information and entertainment for society, comics have entered the digital sphere, from comics published on search engine front pages to websites to social networking app services. Comics can now be enjoyed not only by comic enthusiasts who collect them but also by other readers. Free download apps and a variety of comic genres make these comics appealing. Online comics are not only engaging but also more cost-effective and accessible. With just an internet connection, readers can enjoy comics of various genres compared to purchasing comics from bookstores [14].

Fizzo Novel is an application for reading modern novels digitally. Classified as a reference and application, Fizzo Novel has the power to bring drastic changes to the world of fiction. Fizzo Novel is not only a way to enhance the interest in reading novels but also has the potential to generate income just by reading [15].

Using Fizzo Novel is very easy. Before installing the Fizzo Novel application, there are a few things to consider, such as the device specifications suitable for installing Fizzo Novel. It is a device running a minimum Android operating system version of 2 GB RAM and a minimum internal memory of 32 GB. If all the questions above have been answered, the next step is to install the Fizzo Novel application. The process is quite simple, open the Play Store, search for the application, then click install, wait for the installation to complete, and you can read as many novels as you want offline and for free on Fizzo Novel.

Problem Based Learning is a set of teaching models that uses problems as a focus to develop problem-solving skills, content, and self-regulation. According to Arends [16], the steps in implementing PBL consist of 5 phases: (1) introducing students to the problem; (2) organizing students for research; (3) assisting independent and group investigation; (4) developing and presenting the results of their work; (5) analyzing and evaluating the problem-solving process. The issues used in PBL are real-world problems. Although individual abilities are demanded of each student, in the PBL learning process, Students gain an understanding of the current problems in groups. Subsequently, students learn individually to acquire additional information related to problem-solving. The role of the instructor in PBL is that of a facilitator in the learning process. The Connection Between PBL and Critical Thinking.

According to Sofyan et al. [17], they provide an explanation of the five steps in implementing Problem Based Learning. The steps are as follows in the Tabel 1.

Table 1. The stages of PBL.

Stage 1. Orienting students to the problems they will encounter	Explaining the precise objectives of the upcoming learning. Explaining the materials required. Providing motivation (encouragement) to students to participate actively in the chosen solution or problem-solving.
Stage 2. Coordinating and organizing students to learn earnestly	Providing assistance to students in the form of understanding definitions and organizing tasks related to the issues in the learning process.
Stage 3. Providing guidance in individual and group (team) investigations	Providing motivation and encouragement to students to actively gather accurate and relevant information, conduct experiments as responses to explanations and problem-solving.
Stage 4. Developing and presenting the final results (work)	Assisting students in creating plans and preparing project outcomes tailored to the format of a model report, as well as dividing tasks collaboratively with peers.
Stage 5. Analyzing and improving through the evaluation of the solution process	Analyzing students' learning outcomes regarding the studied material and requesting group presentations of their work results.

Scriven & Paul [18] revealed that in critical thinking, there are skills to apply, analyze, synthesize, evaluate acquired information, and generalize results from observations, experiences, reflections, reasoning, or communication. Critical thinking is not inherently present in an individual from birth. However, critical thinking is a skill that can be developed through students' direct experiences in facing problems. Therefore, if students are accustomed to using the above skills, critical thinking skills can develop. The teacher's task in enhancing students' critical thinking skills is to provide a learning environment that encourages students to utilize critical thinking skills.

The Problem-Based Learning (PBL) model is one of the learning models that can provide a learning environment that supports critical thinking. PBL is based on problematic and confusing situations, which will arouse students' curiosity and interest in investigating the issue. When students conduct investigations, they employ stages of critical thinking to explore the problem, analyze based on evidence, and make decisions based on the investigation results.

Furthermore, the connection between PBL and the story plotter application lies in seeking a solution and aiming for the end result in the form of writing.

From the Table 2. and Table 3. it is known that the total scores between the experimental group and the control group are different. The experimental group has a good average score, with an average score of 87.72 for the use of story plotter, Wattpad, Fizo, and Webtoon in relation to story coherence, whereas the control group's average score is around 70. From the T-test table above conducted using the SPSS application, it can be interpreted that the use of story plotter, Wattpad, Fizo, and Webtoon has a positive influence on Indonesian language learning, especially in writing literature.

Table 2. Group statistics.

	Class	N	Mean	Std. Deviation	Std. Error Mean
RESUL TS	Experiment	32	87.72	1.746	.309
	Control	32	70.88	3.892	.688

Table 3. Independent sample test.

		Lavene's test for equality of variances		t-test for equality of means						
		F	Sig.	T	Df	Sig. (2- tailed)	Me an differen ce	Std. error differen ce	95% confidence interval of the difference	
									Lo wer	Upp er
Re sults	Equal variances assumed	38. 189	.000	22 .339	62	.00 0	16.8 44	.754	15.3 37	18.35 1
	Equal variances not assumed			22 .339	42. 990	.00 0	16.8 44	.754	15.3 23	18.36 4

The control group's average students have a level of difficulty when trying to develop story ideas into a coherent short story. Some students choose to open the Google application and search for story references as idea sources. Meanwhile, the experimental group has a good pattern of idea development, and most students use ideas from what they like, such as KPOP and soccer.

From the T-test above, it can also be seen that the Equal Variances Assumed has a significance value of 0.000 and a two-tailed significance value of 0.000. Based on these values, it can be interpreted that the use of story plotter applications Wattpad, Fizzo, Webtoon in Indonesian language learning for 6th-semester students has an effect on student learning outcomes. Therefore, based on the research hypothesis, this report can conclude that H_a is accepted and H_0 is rejected.

4. Conclusions and Suggestions

Problem-Based Learning is a set of teaching models that use problems as a focus to develop problem-solving skills, content knowledge, and self-regulation. There are five phases in implementing PBL: (1) orienting students to the problem; (2) organizing students to investigate; (3) assisting independent and group investigation; (4) developing and presenting outcomes; (5) analyzing and evaluating problem-solving processes. Real-world problems are the basis for PBL problems. Although individual abilities are demanded from each student, in the learning process of PBL, students work in groups to comprehend the issues they face.

Writing is a skill that not everyone possesses, especially writing for academic purposes, such as writing essays, research reports, scientific papers and so on. Therefore, the act of writing is a challenging activity, especially when it involves creating works that are factual and scholarly, such as writing complex explanatory texts.

The exploration of digital literature and accelerated hermeneutics through digital technology represents a new approach and experimental effort. This will be needed by almost all societies and learners in the globalization era. In the current Industry 5.0 revolution era, the use of technology is not an uncommon thing for educational practitioners. This includes professors, students, and other educational tools.

There are still many shortcomings in this research report. For future research, it could discuss in more detail the effectiveness of using digital applications in teaching literary writing for students.

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