Improving students writing ability and creativity in procedure text using technological pedagogical content knowledge (TPACK)

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Article Info

ABSTRACT

This study aims to determine the effectiveness of the TPCK-based learning model on Canva application to improve students' writing ability and creativity in writing text procedures. This research is classroom action research consisting of 2 cycles, each cycle consists of 4 main stages, namely planning, implementation, observation and reflection. The subjects in this study were 25 students of class X SMAN I Kediri, West Lombok, West Nusa Tenggara. Data were obtained through observation, interviews, writing assignments and field notes. The data were analyzed descriptively qualitatively including collecting data, coding, comparing, making interpretations and reporting the results. The results showed that the application of project-based learning experiences can improve students' writing skills and creativity. This project-based learning experience can significantly increase students' curiosity, interest and motivation, encourage changes in students' attitudes and behaviors to develop their writing skills and creativity, teachers can monitor and assess students' progress through the results of student work projects regularly. The results showed that the average score of students in the pre-test 11.58 increased to 15.84 in the post test with a difference of 4.26. The findings mean that the technology-based learning model can significantly improve students' writing skills and creativity in writing procedure texts.

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Introduction

Education plays a crucial role in shaping individuals' abilities, including their writing skills and creativity. As mentioned by Hasan (2022), writing is an artistic endeavour that involves the expression of thoughts, ideas, and emotions. Expressing ideas and information through writing is a crucial aspect of modern life. In a world where technology is ever-present, information technology has become a powerful tool for learning. Thus, this research centres on endeavours to enhance students' writing abilities and foster creativity in procedural texts through the implementation of the Technological Pedagogical Content Knowledge (TPACK) approach.

The TPACK approach integrates three key elements - technological knowledge, pedagogical knowledge, and content knowledge - within an educational context (Mouza et al., 2014; Chai et al., 2013). The growth of TPACK implies, according to one line of reasoning, that the predefined framework will shift over the course of time. This is due to the fact that fresh data is introduced to the provisional model while the first mental model is being constructed according to the needs of the framework (Listiawan, 2018). This approach enables educators to seamlessly incorporate technology into the learning process, resulting in enhanced comprehension of lesson

content and improved writing abilities for students. When it comes to procedure texts, having strong writing skills is essential as students must effectively arrange information in a clear and organized manner.

The era of globalization, in which we can quickly get information and interact with individuals from all parts of the world, necessitates that we have the ability to communicate effectively with one another. Acquiring proficiency in a foreign language is one option. Learning a foreign language means learning to interact with strangers, understand their messages, talk to them, read what they have written and write something to them (Cohen & Henry, 2019; Lenine & Adelman in Rahmat, 2018). It involves listening, speaking, reading and writing, sometimes even a new alphabet and writing format. Written communication is an exceptional characteristic of the human species. Writing as one of major skills in English used to communicate intensively. It's very important for career and personal life because others assessed our performance according to what we write and how we write something. Human acquire writing naturally, even in the first language, it has to be taught. The ability to write something proficiently is a main foundation to establish a great framework which allows to reach a bright future.

Writing expresses who we are, even after our life time. It makes our performance, our knowledge, our personal aspirations, our opinions and our work for the future visible to others. It is not just a word but it's a great skill and help you put your imagination into words greatly. Writing is the fuel that drives communication and communication serves as a framework for society. It enables you to reach a much larger audience, in many places and over time. Writing is the means to describe our opinions, ideas to ourselves and others while preserving our personal experiences and memories. Writing is not fleeting, it is permanent. Writing is a record of what you wished to communicate at a point in time. Writing skills gives you frame to your imagination, explore your ideas, creative to portray a particular opinion and express something different freely.

Writing skills is very crucial for students because it determine students' success in learning English. A good writing skill enables students deliver their ideas and communicate it so those can be well perceived by others. As a consequence, writing is one of major skills which must be mastered by English language students. Writing proficiency used as indicator to measure students' English performance. This opinion supported by Kingston et al. (2013) who explained that the achievement of students while learning English assessed by the productive skills specifically their writing proficiency. Thus, the important of creative writing lies in its ability to explain the world through an honest and unfiltered lens. Anyone who engages in creative writing, no matter the genre or style, helps us to explore the human experience, share new ideas and advocate a better society. Students should give spaces to let their creative ideas, flourish and see themselves as writers.

Second language students still faced difficulties in writing process, it considered as the most difficult skill to be mastered. There are many problems arise during writing process in the EFL classroom. The students usually make some mistakes in their writings in terms of content, organization and grammar. Many students look less proficient writers, they tend to applied ineffective strategies during writing process. Writing is not an easy skill to be mastered, many students still got difficulties in deciding the topic and exploring their ideas correctly. They felt that it is uninteresting and boring process. Students lack confidence and interest in writing classroom. They had limited vocabulary, did not participate actively in classroom interaction, they cannot arrange a procedure text based on it functions and teacher did not used unappropriated learning model. Teacher tends to less optimized technology in teaching learning process.

A procedure text is a text designed to explain how something accomplished through a sequence of actions. Taking into consideration how difficult the procedural text content might be, it is very essential to develop learning exercises that are contextual and pertinent (Soleh, 2021). Students can find procedure text in their daily life like in game rules, cooking recipes, using television or ATM machines. Regarding to those problem, the researcher proposed the implementation of project-based learning by using Canva application as an innovative learning model-based Technology Pedagogic Content Knowledge (TPCK), there was a crucial need to take students into an innovative learning model in writing classroom. Technological Pedagogic Content Knowledge (TPCK) describes the kinds of knowledge required by teachers for the successful integration of technology in teaching (Ariani, 2015; Aminah & Rochmad, 2020). It allows teachers to examine and reflect on their practice and how technology integrated in the classroom.

Canva application integrated with Project based Learning can arouse the student's participation in classroom discussion, it can develop their writing skills and creativity significantly (Widiyastuti, 2022). It focused to the students and can produce a creative project. Students not only learn something but they can produce something by their own creativity. It allows students to develop deep content knowledge and also supports development of 21st century skills such as creativity, critical thinking, collaboration and communication. Project based learning integrated with Technology Pedagogic Content Knowledge (TPCK) can improved students writing skills and

creativity significantly because it can drive students learning experiences by engaging them in real world, produced meaningful projects creatively.

The application of technology in teaching learning process can adds to the teachers' efforts to provide supportive technologies (Lestari, 2018). Technology can minimize the difficulties when teacher teaches the students significantly. Canva application allows the students created incredible writing and   designs without having to used complicated design software. It allows the students choose templates, edit their writing easily and focused on what they had known. The students can do their writing tasks, Canva for writing project enables the students to centralized all their assets, collaborate it easily and oversee a brand's image by providing remixable templates, images and design assets that other group can used to create on brand graphic.

According to the findings of a study that was carried out by Ersanli (2016) on the subject of the influence that TPACK training and workshops have on pre-service English teachers, training studies and workshops are effective in raising pre-service teachers' awareness of the possibility and effectiveness of utilizing digital technology in the classroom for educational purposes. Because of this, it is strongly suggested that TPACK training and material development workshops be included into existing programs that train teachers. According to Safitri et al. (2021) research titled "Teacher Efforts in Improving Primary School Student Learning Outcomes Using the TPACK Approach," it was found that the utilization of the TPACK approach in teaching can enhance students' comprehension, enthusiasm, and motivation during the learning process.

The novelty of this research is the existence of a new approach in improving students' writing skills and creativity on procedure texts. This study combines the concept of TPCK (Technological Pedagogical Content Knowledge) with procedure texts as learning objectives, so that students can better understand and be able to apply technology in learning to write. In addition, this research also emphasizes the creativity aspect in writing, so that students can explore their creativity in writing procedure texts. Thus, this research makes a significant contribution to the development of more innovative and effective writing learning methods.

Method

The research design used was Classroom Action Research (PTK). This research consists of two cycles, namely cycle 1 and cycle 2 where each cycle consists of four stages, namely planning, action, observation and reflection. This research was conducted on class X students of SMAN I Kediri, West Lombok, West Nusa Tenggara Province. The participants of this study amounted to 25 students, consisting of 14 male students and 11 female students. Data collection consisted of qualitative and quantitative data.
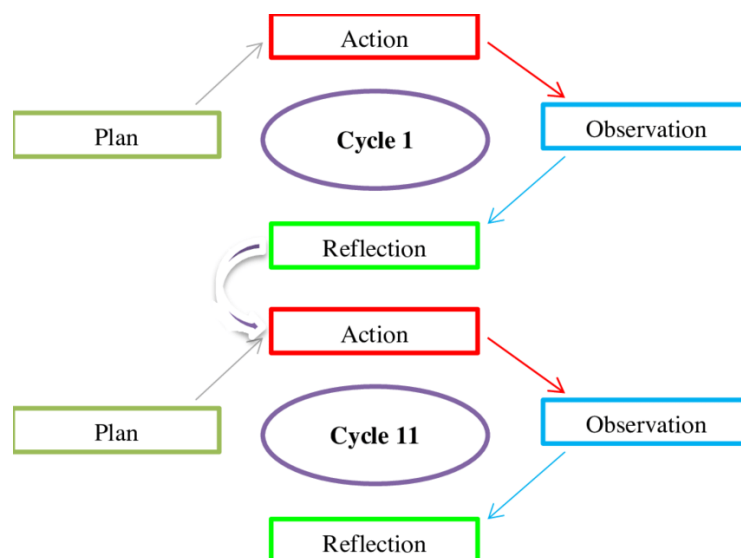

Figure 1. Kemmis and McTaggart model (1988:11-14, cited in Burns, 2019)

Qualitative data were obtained from observations and interviews. The data were in the form of interview transcriptions, field notes, and observation checklists.   Furthermore, quantitative data was obtained from a series of writing tests given to students. The writing tests were in the form of pre-test before the implementation of project-based experiences and post-test after the implementation. The writing assessment was adapted from Anderson in Hughes 2003. Data analysis was done descriptively qualitatively starting with collecting data, coding, comparing, making interpretations and reporting the results. The researcher collected data through several sources then looked for a broad data model then reduced the data into a more specific form by classifying

it into several categories. The data categories were compared with each other to find out whether the categories represented or stated the same thing. After that, an interpretation was made based on the critical thinking process by reflecting on the details. The final stage is for the researcher to mark how the results are presented comprehensively.

Results and Discussions

The researcher observed writing classroom at tenth grade students of SMAN I Kediri, West Lombok, West Nusa Tenggara Province. In order to identified problems of English writing ability and creativity to composed procedure text, the researcher running many activities at each session. Preliminary observation held to know the writing process at the tenth-grade students. Writing process at the tenth-grade students of SMAN I Kediri, West Lombok, West Nusa Tenggara Province indicated there were many problems faced by students in their writing classroom. Teacher usually applied conventional method in writing classroom. The activities tend monotonous and uninteresting. The students look to be passive students, the teacher cannot grab their interest and motivation, they did not interest to be active participants during teaching learning process, they did not arouse to get involved fully in classroom activities. The students felt bored, not be able to focus, stress with the lesson and lack of their attention. The next step had interviews with English teacher and the students to get extra information about their difficulties in writing process and the last step was created a pre-test to measure the student's writing ability and creativity.

Based on the result of pre-test, the students often created some mistakes during writing process. The students writing ability and creativity was very low, they did not have enough knowledge in the writing aspects comprehensively such as aspects of grammar, mechanism, organization and vocabulary. Many students felt that writing is the most difficult skill to be mastered, they still confused to explore their writing creatively. They did not understand how to used grammar how to created it and manipulated their sentences correctly. The students failed to use the right form of adjective, adverb, preposition, articles, subject and verb agreement in their writing, tend created grammatical mistakes or there were no predicate in their sentences. Moreover, they still confused to find out general idea and explore their ideas creatively, lack of paragraph organization, selecting inappropriate conjunction to related sentences, lack of vocabulary mastery and lack concern to writing mechanism such as capitalization, spelling or punctuation. The researcher conducted the writing project after implementing an innovative learning method in writing procedure test based on technology pedagogic content knowledge (TPCK). The students asked to do a writing project related to procedure text in Canva application. The aspects of students writing measured were grammar, vocabulary, mechanism, fluency and organization.

Table 1. The Comparison of Cycle 1 and Cycle 2

No.	Cycle 1	Cycle 2
1.	The students' knowledge was still low in many aspects of hortatory text. The students made some considerable progress in some aspects of writing	The students got complete knowledge on hortatory text which effected to their writing proficiency. They made greater progress than before
2.	There was difficult to managed classroom at the first cycle, the students always noisy, looks uninterested in writing process	After giving more attention and approached simultaneously, the classroom atmosphere became better, the students look focus and enjoy their project work
3.	The time allocation was not adequate to cover the project development and writing practices so the students continued their project at home, it cannot be controlled directly as in classroom	The time allocation managed well. The students can finish their project and writing practice on time. The researcher and the collaborator can control them directly while presenting their project.
4.	The students feel shy to asked questions related to the materials, they tended to be quiet and passive in classroom interaction	The students usually asked question that they had not understand fully. They participate actively in classroom interaction

Table 2. The Students Score (Pre – Test)

No.	Name	Grammar	Vocabulary	Mechanism	Fluency	Organization
1.	HCL	2	3	2	2	3
2.	AST	4	2	2	2	2
3.	NVC	2	3	4	2	2
4.	JKY	2	2	2	3	3
5.	WSQ	4	3	2	2	2
6.	XZR	2	2	3	2	2
7.	OYD	3	3	2	2	2
8.	XTH	2	3	1	2	2
9.	MEI	2	2	3	3	3
10.	BOA	3	4	2	1	2
11.	ZAQ	3	2	2	1	2
12.	YHW	2	2	2	2	2
13.	PKD	2	2	2	3	2
14.	ZNT	3	2	2	2	1
15.	QLF	2	4	2	3	2
16.	UOP	3	3	2	2	2
17.	ZAY	2	2	1	2	1
18.	VHT	3	4	3	2	2
19.	ABC	2	2	2	2	2
20.	HTS	3	3	2	2	3
21.	YRB	2	2	3	2	2
22.	QDE	3	2	3	2	1
23.	KHS	2	2	3	2	3
24.	ILM	3	2	2	3	2
25.	BGR	3	3	2	2	3

Table 3. The Students Score (Post-test)

No.	Name	Grammar	Vocabulary	Mechanism	Fluency	Organization
1	HCL	3	4	4	3	4
2	AST	3	4	3	3	3
3	NVC	3	3	3	2	3
4	JKY	3	3	2	3	3
5	WSQ	3	4	3	4	3
6	XZR	3	4	3	3	4
7	OYD	4	3	4	3	3
8	XTH	3	3	3	3	2
9	MEI	4	3	3	3	3
10	BOA	2	3	4	3	3
11	ZAQ	3	3	3	3	3
12	YHW	4	3	3	3	3
13	PKD	3	3	3	4	3
14	ZNT	3	4	3	2	3
15	QLF	3	4	3	3	3
16	UOP	4	3	3	3	3
17	ZAY	3	3	3	4	3
18	VHT	4	3	4	3	3

No.	Name	Grammar	Vocabulary	Mechanism	Fluency	Organization
19	ABC	3	3	3	3	4
20	HTS	3	4	3	3	3
21	YRB	3	4	3	3	3
22	QDE	3	3	3	3	3
23	KHS	4	4	3	3	3
24	ILM	3	3	4	3	3
25	BGR	3	4	3	3	3

Cycle 1

The students performed progress at writing skills and creativity, they also had positive changes on attitudes and behaviours towards writing during the application of project-based learning. They looked very enthusiastic in writing activities but there were many   students noisy and feel bored in their writing classroom. The application of project-based learning can arouse the student's motivation in writing classroom. The students participated actively during teaching learning process; it provided the students writing practices regularly. Project based experiences assisted the students to generated ideas during writing, it enables the students to share their ideas opinions freely. The used of Canva application during the implementation of project-based learning in writing classroom can improved the student's interest and attention fully.

The students reached progress in the aspects of writing such as grammatical aspect, vocabulary, mechanism, fluency and organization. (1) Grammatical aspects, many students performed progress in their writing proficiency and creativity. Based on the result of the students writing in cycle 1, they succeeded in accomplishing substantial progress. The students can compose longer sentences correctly. Although many students had some mistakes but it was definitely better than before the application of project-based experiences. (2) Vocabulary aspect, many students got vocabulary enrichment during writing process. Their vocabulary choices were better than before in composing a text. (4) Mechanism aspect, involving spelling and punctuation. The students tend to forgot to put a full stop or comma at their sentences. After treatment, they had more consideration at spelling and punctuation and their project work become clear and better. (5) Fluency aspect, the students had a good flow of ideas during writing process and able to write easily. Many students got difficulties, feel confused and frustrated to write but they had got significant progress in this aspect. (7) Organization aspect, many students can determine the form of their text, can arranged ideas into a good pattern although many students still forgot to put the recommendation part on their project. We can summarize that they were success in attaining progress.

Cycle 2

The application of project-based learning arouses the student's motivation and curiosity towards writing. The students participated actively in classroom interaction, they performed highly motivation and very enthusiastic. Project based experiences facilitated more writing practices for the students, it assisted students to found and generate ideas easily. They did not need a long time to begin their writing and can produced longer texts. The use of teaching media in writing activities stimulated the students, it helps the students understand language meaning and its patterns easily.

The students had progress related to the aspects of writing, they can create better text and reduce their mistakes. (1) Grammatical aspect, almost all of the students had progress significantly. They can minimize their grammatical mistakes; they were able to use the right form of verbs and verb agreement got better quickly. (2) Vocabulary aspect, the students can apply various vocabulary correctly, able to used new words and used translation tools to translate their difficult words. (3) Mechanism aspect, the students pay attention to their spelling and punctuation, they always controlled their writing and revised before the final version submitted. There were a few mistakes but they had significant progress related to this aspect. (4) Fluency aspect, they could manage their anxiety in writing, could write longer and their ideas flew better. Even there was still a few mistakes, their progress could be seen when compared to the first cycle. (5) Organization aspect, the students performed a better understanding on how to organize text comprehensively. They designed the organization of the text properly by adding thesis statement of what the text discussed. (6) The application of project-based learning authorized the student's creativity, they could explore themselves while expanding the project work. They were supported to think creatively when they worked on their writing project.

Tabel 1. The students mean score in the aspects of writing

Aspects of Writing	Pre-test	Post-test
Grammar	2.56	3.2
Vocabulary	2.64	3.4
Mechanism	2.24	3.12
Fluency	2.02	3.04
Organization	2.12	3.08
Mean Score	11.58	15.84

From the results of pre-test and post-test, there can be seen significant progress that indicated the application of project-based learning can improved the student's writing ability and creativity. Project based learning offered motivating and challenging experiences to students which can improved writing ability and creativity significantly. The students performed positive changes on attitude and behaviour, there was also significant progress on their writing aspects such as grammar, vocabulary, mechanism, fluency and organization. The student's pre-test mean score was 11.58 and increased to 15.84 in post-test with the gain score 4.26 which indicated that they were reached successful progress. The results of pre-test and post-test in grammatical aspect showed that there was an increase in then students mean score from 2.56 to 3.2 with the gain score 0.64. Meanwhile, in vocabulary aspect the pre-test score was 2.64 and improved to 3.12 with the gain score 0.76. At mechanism aspect, the students scored 2.24 in their pre-test changed to 3.04 in the post-test with the gain score 0.88. Moreover, there was a progress in fluency aspect which the pre-test score was 2.02 and the post-test 3.04 with the gain score 0.84. Lastly, for organization aspect there was significant progress which the pre-test score was 2.12 and the post-test 3.08. The gain score obtained in the organization aspect was 0.96. Based on the data above, we can conclude that the application of project-based learning can improved the student's writing ability and creativity in procedure text using technology pedagogic content knowledge (TPCK) significantly.

Conclusions

This research was a Classroom Action Research (CAR) which conducted at the tenth-grade students of SMAN I Kediri, West Lombok, West Nusa Tenggara Province. The application of project-based learning in writing a procedure text was successful to improve the student's writing ability and creativity in Canva application. Based on the result of the qualitative and quantitative data, it indicated that the students writing ability and creativity improved significantly on the aspects of grammar, vocabulary, mechanism, fluency and organization. There was also a positive change on the student's motivation and interest when they dealt with the project work. The students seemed very enthusiastic in writing activities, they did not afraid to start their writing project, their attitudes and behaviours towards writing changed significantly. The use of Canva application could drive students' interest and motivation towards their writing project. Technology Pedagogic Content Knowledge (TPCK) can be an alternative method in teaching writing in this industry revolution 4.0, it combined with the used of Project based learning. The group work facilitated the students to share their ideas, opinions, knowledges and information easily. They looked less nervous when work in a group work than alone. Project based experiences can help the students more focused in writing activities, it provides the students opportunities to practice writing significantly.

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