Patterns for Utilizing ICT in Learning of Writing in Public Senior High School in Buleleng District

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Abstract. This study aims (1) to find out the pattern of ICT utilization in learning of writing in public high schools in Buleleng Regency and (2) to know the effectiveness of its application. The study used a developmental research design. One class was chosen at SMAN 1 Singaraja and at SMAN 3 Singaraja as the subjects of the study. It was found that the utilization pattern of ICT in learning writing was (1) the teacher uploading the text, (2) students reading the text to see its structure and linguistic characteristics, (3) the teacher uploading the theory about the text, (4) the students downloading the material to write, (5) the students writing the draft and uploading it, (6) giving comments in pairs, (7) revising the draft and uploading it, and (8) giving comments and scores by the teacher. The teacher did all this by utilizing the Schoology application. The pattern proved effective in learning writing.

Keywords: Pattern · Utilization · ICT · Learning · Writing

1 Introduction

Information and Communication Technology (ICT) is developing rapidly and affecting various aspects of life, including the field of education. ICT in education is generally applied related to administration and especially in the implementation of learning.

Many studies support and prove that ICT is very helpful for learning [1–3]. ICT also affects language learning, especially in people's motivation to learn languages and how to learn languages [4]. ICT can support and enhance the learning experience [5, p. 12]. ICT in learning can be utilized in connection with the development and provision of learning media and as a means and source of learning for various subjects, including Indonesian Language Subjects, especially in developing writing skills. According to Dudeney and Hockly [6, p. 7], since the 1980s, in language teaching, what has been known as Computer Assisted Language Learning (CALL) in language learning has been known since the 1980s has been known. CALL theory focuses on at least two aspects: language learning and learners' interaction with the technology used [7].

The development of information technology provides opportunities for improving the quality of learning, but on the other hand it also makes the use of technology in language learning more varied and complex. Language teaching that utilizes ICT is not

only harur mastering ICT but must also know the theory of language learning and the theory of education [8].

Research shows that using ICT in language learning has a positive impact, including on writing learning. Using video clips of authorship to serve as writing mentors, explaining and facilitating editing and revising processes, and providing publishing opportunities for student writers [9]. Research proves that blogs have provided teachers with a beneficial tool in writing learning for middle-level Englis h students at Turkish Universities [10]. Data analysis results show that writing learning that is integrated with blogs results in a more significant increase in student writing performance. This finding is in line with the findings of [11] in Spain. There, it is proven that blogs can motivate students to develop their writing skills through self-reflection and peer feedback.

While ICTs have provided many benefits to learning writing, there are encouraging phenomena among students. Almost no high school students do not have any gadgets, from laptops to cellphones. Students have grown up with technology, and technology has naturally become a part of their life [6, p. 7]. Access to the internet network is extensive and more straightforward because they can do it from their cellphones by installing internet cards provided by various companies at increasingly affordable prices.

Apart from having access to technology, its use in learning still needs to be studied. Research on the use of technology by students and teachers shows that technology can be problematic. Research shows that the application of ICT in learning can make it difficult for teachers to control students' activity and focus on learning [12]. Knowledge and technical proficiency in ICT use are also limited [13]. Unfortunately, teachers often assume that students can already use technology well. Whereas, when schools believe that students know how to use technology, students' use of technology tends to be problematic [3].

The problem is how far ICT has been used by teachers and students in writing and the obstacles. This question has been answered through previous years' research. There are nine potential ICTs that most teachers need, but only six are truly utilized. The six are (1) looking for/exploring writing learning material, (2) looking for models/examples of writing in various types of texts, (3) asking students to find writing material, (4) asking students to find models/writing examples, (5) asking students find writing material, and (6) do scoring of student writing. Of the three potential ICTs that most students need, only two are really utilized by most students. Both are (1) looking for material (theory) about writing and (2) looking for material for writing assignments given by the teacher. Both teachers and students face obstacles in utilizing ICT. The most dominant obstacle is the limitations of supporting facilities and infrastructure and the ability to use them.

The question that still exists and is very important to answer is how the pattern and effectiveness of its use in writing learning is. To answer it, done. This research is based on several theories relating to (1) ICT in writing learning, (2) ICT and computers in writing learning, (3) internet in writing learning, (4) problems in the application of ICT in writing learning, and (5) review library.

The teaching world requires technological support and, therefore, these developments need to be responded to well, especially by teachers, including teachers in the field of language. "As educators in the 21st century, we need to accommodate the new

information and communication technology in the context of literacy education. The pedagogical potential in the classroom can exploit ICT [14]."

Therefore, in a world increasingly dominated by Information and Electronic Communication Technology, writing teachers often demand the integration of the technology into the classroom [15]. The new technology has had a significant impact on writing. The effect looks at how we write, the type of paper we make, the shape of the final product we take, and how we attract readers.

The new technology has implications for what we teach and how we teach [15]. The new technology has provided an alternative approach to traditional material and methodology. This provides opportunities for students to be interested in the creative process of text construction and for teachers to help their writing process be clearer and more effective. For example, the internet has made it easy for students to obtain and publish text online and expand their experience of communicating beyond classrooms, while networking in class increases interaction between students in making conclusions and providing peer responses. So, many benefits can be drawn from using ICT in writing learning [14].

ICT is considered the primary tool to assist teachers in creating learning that suits students' needs and learning styles [14]. The implementation of ICT has also led to the role of teachers/students/parents, and the interaction itself has changed [15].

ICT is a set of technological tools and resources used to communicate, create, disseminate, store and manage information [2]. ICT cannot be released from computers because the application of ICTs is facilitated with computers. It means that computers play an essential role in the use of ICT. However, it does not mean that computers can improve learning progress more than other teaching tools, such as blackboards, overhead projectors, or video players [15, p. 145]. Technologists are not a method but a supporting tool for implementing various approaches. Like any support tool and technique, it is the use method that will change students' writing behaviour.

Perhaps the most apparent feature of computer-based writing activity is how electronic text facilitates writing that dramatically changes our writing behaviour [15, p. 146]. The most common word processing feature allows us to chop and move, delete and copy portions of text, check spelling and grammar, import images, change the format, and print with quality worthy of publication. All this means that now we can very quickly improve the text.

The ease provided by the computer through its word processing software does not necessarily improve the quality of writing learning. The study results relating to the impact of computer use in learning writing have not been steady [15, p. 147]. Some studies show that computer use fosters positive attitudes toward writing and increases the intensity of revisions and writing quality. However, some show that computers' use does not have much effect, even inhibiting and limiting students' writing and making improvements. Although computers can provide convenience in writing, computers are still a tool that will not automatically offer benefits. Learning to write cannot be improved only with new supporting tools but by the right learning strategies. Therefore, the question is not whether we should use computers in learning to write, but how to use them as well as possible.

The internet is a massive online database that can give users access to hundreds of millions of multimedia documents [15, p. 158]. So many sources of information have changed the aspects of learning writing. Internet facilities not only facilitate the type of communication media computer but also allow teachers and students to find and read text online easily that can provide (a) data for projects, (b) information, assignments, and learning material, (c) authentic language to analyze, and (d) a place for students to publish their work.

Besides being a source of information and compiling corporations, the internet is also a rich source of language learning material and writing suggestions. There are hundreds of sites about that. These sites generally offer attractive interfaces, varied assignments, and choices for learning and interacting.

Finally, the internet provides an alternative space for students to publish their writings. It gives satisfaction and pride because they can display their work to a vast audience and encourage them to be more careful in presenting the work. The teacher can design web pages for the class or encourage students to create their sites to load their works. However, it should be emphasized the main reason for making the site. Pages created for a limited audience on the local network will differ from pages created for a wider audience. Likewise, the work that will be loaded is the work in the form of a final draft or initial draft that still requires peer or teacher comments. If the work published is an initial draft that requires a response, of course, an online response form is needed for class members.

Nevertheless, it needs to be realized that technology, whatever its form, is generally like a double-edged knife: it benefits the one hand while also bringing harm. Behind the benefits of ICT for learning, adverse effects must be watched. Armstrong and Casement [14, p. 317] state that the antithesis is found at each benefit. For example, with ICT, students can compose writing with information from various sources. However, in this case, it can be done by students just plagiarizing or rearranging the text obtained from specific sources. As is known, plagiarism is one of the cross-expertise and professional problems and has become increasingly common in the electronic age today compared to the previous period [16].

Several studies on this research topic have been carried out in several countries. In 2011 research was conducted on "Enhancing Writing Skills through Blogs on Learning English as an Advanced Foreign Language in Spain" [11]. It was found that personal blogs can motivate students to develop their writing skills through self-reflection and peer feedback. In 2011, in the United States, research was conducted on "Teacher's Perception of ICT Integration into Reading-Writing Learning". It was found that the integration of ICT into the curriculum was low; there was a perception that there were obstacles to integrating it from the technology side, not from the side of the curriculum. In 2013, in Poland, there was a study of "Implications for the Use of ICTs by Language Teachers - International Project Participants" [17]. The respondents were 264 language teachers representing 620 language teachers throughout Poland. Through the questionnaire distributed, several things were revealed. More than 70% of language teachers had access to computers or laptops. More than 60% of language teachers use social media; more than 70% of language teachers do not get the skills to use ICT during college; however, more than 70% can overcome technical problems alone or with colleagues.

2   Method

This research was researched with a development plan from Sugiyono with little modification. The application has begun with the development of product designs to develop patterns of using ICT in high school writing learning. The development was based on data on the needs and utilization of ICT by teachers and students and the constraints they face obtained from research in the year I. Furthermore, design validation has been carried out. Namely, the draft validation has been requested. The validation results have been piloted through a trial of application in writing learning in high school to determine the effectiveness of its application. The trial results have been followed up with product revisions in the form of patterns of use of ICT in writing learning. From that process, an effective pattern of ICT utilization was founded to increase the success of writing learning in high school.

3   Result and Discussion

3.1   Result

Based on the results of previous research on what ICTs are needed and for what purpose ICT has been used, both by teachers and students, in writing learning in Public High Schools in Buleleng Regency and based on the research design adopted in chapter III, a product design in the form of a draft utilization of ICT in writing learning in high school by utilizing Schoology software. The pattern of utilization has eight steps like the following.

1.   The teacher uploads the text to be studied following the KD to be developed;
2.   The teacher invites students to apply the steps of the scientific approach and discovery learning to find the structural and linguistic characteristics of the text being studied;
3.   Teacher uploads a theory about the structural and linguistic characteristics of the text being studied to be read by students;
4.   Students download material for writing from material provided by the teacher and from various other sources that the teacher can provide the link;
5.   Students write and upload the initial draft of their writing;
6.   In pairs, students examine the work of their friends.
7.   Students write the final draft of the writing and upload it.
8.   The teacher conducts scrutiny, gives comments and scores on the posts uploaded by students.

Following the stages in product development, the draft pattern of using ICT in the writing learning above is requested for validation by the experts on using ICT in language learning, in this case, Dr. Putu Suarcaya, S.Pd., M.Pd. From those concerned, there were several comments and questions submitted.

1.   There is a gap between steps (3) and (4).
2.   For step (4), the material is downloaded by students from the same application or searched from different sources?

3. Is Schoology also a means and source of learning?
4. What is the step (6) what does e-collaboration mean?
5. Where is the teacher's position when step (6) runs? As a moderator or as a passive monitor, or not monitor at all?
6. In general, the learning steps are exact.

Regarding the comments and questions above, the following is the response from the researcher. In step (4), the material is downloaded from a different source that the teacher can provide the link to. Thus, schoology can provide learning resources. Step (6) is e-collaboration. At that time, the teacher was a passive monitor. The stages of such learning are presented in the following chart.
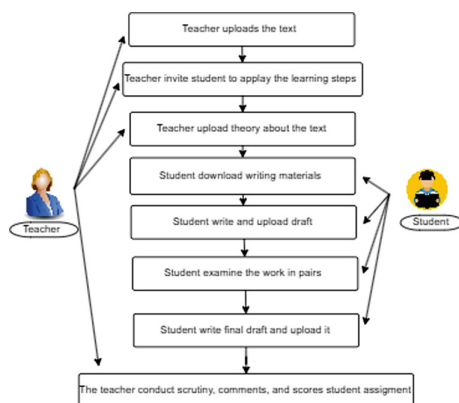
The pattern of utilization of ICT in learning writing above was tested in two schools in each class with details: one school in the city, namely SMAN 1 Singaraja, and one school in the suburbs, namely SMAN 3 Singaraja. At SMAN 1 Singaraja, the teacher involved as the pilot was Mr. I Gusti Ngurah Agung Supadma Yasa, S.Pd., M.Pd. At SMAN 3 Singaraja, the teacher involved as the pilot was Ms. Ni Komang Rika Damayanti, S.Pd., M.Pd.

At SMAN 1 Singaraja, applying the pattern of use of ICT in writing learning began on Tuesday, August 7, 2018. Its application was preceded by the formation of writing classes in the Schoology application and the registration of class members who would participate in writing learning through the Schoology application. Following the pattern that has been validated, the teacher's first step is to upload text following KD that will be developed. The KD that will be developed is to write an observation report text (LHO). Therefore, the text uploaded is the LHO text with the title Komodo. Because the text will be the object of observation to find its content, function, structure, and linguistic characteristics, a comparative text is also uploaded with the same title, but the type is different (not LHO text). After the text has been uploaded, the teacher asks students to download the text to be used as learning media for writing LHO text.

The teacher goes to the next step to ensure that the student's findings are inappropriate or correct. The step is to confirm student findings. The method taken is uploading theoretical material about the content, function, structure, and linguistic characteristics

of the LHO text. The teacher upload must be downloaded by students. Thus, students become familiar with the content, function, structure, and linguistic characteristics of the LHO text.

After ensuring that students understand the contents, functions, structure, and linguistic characteristics of the LHO text, the teacher assigns students to write LHO texts. The teacher sorts the students into odd and even numbers of presence. Students with odd attendance numbers were given the task of writing LHO texts about animals, while even-numbered students were given the task of writing LHO texts about plants. To find material as writing material, the teacher gives students several links. From the link provided, they are looking for material as material for writing.

LHO text drafts generated by students are uploaded to the Schoology application. After uploading, the text is downloaded by other students who are partners. Please note that before students download their partner's text, they have been installed. The text of the download, then, is commented on and given a score. To give comments and scores, they are given a guide uploaded to the teacher's application.

Peer comments are used as the basis for making improvements to the LHO text produced by students. The improved LHO text is uploaded back to the application for analysis and given a teacher's score. The deadline for uploading is Thursday, September 6, 2018, at 24.00.

At SMAN 3 Singaraja, the application of patterns of use of ICTs in writing learning that began simultaneously started with the formation of classes and registration of class members through the Schoology application. After class members are registered, the teacher uploads the text according to the KD that will be developed. The KD that will be developed is writing explanatory text. For this reason, the uploaded text is an explanatory text with the title Tsunami. This text describes how a tsunami occurred. The text, then, is downloaded by students to be examined. Scrutiny is done so that functions, contents, structures and linguistic characteristics can be found. After the discovery process ends, the teacher uploads theoretical material about the explanatory text's function, content, structure, and linguistic characteristics. This material is used as material for confirmation by students of their findings.

After their findings were confirmed, students' understanding of the explanatory text's function, content, structure and linguistic characteristics became steady. Furthermore, students are asked by the teacher to write a descriptive text draft with a choice of social or natural themes. At this stage, the problem arises. The device carried by students to school is a mobile phone. That is why they write drafts on cellphones in the hope that the resulting draft can be directly uploaded from mobile phones to the Schoology application. The problem is that students find writing text on mobile phones difficult. They were allowed to write a draft on paper to overcome this problem. The result is that the process of drafting is not done. The resulting draft is exchanged with colleagues to comment on and score. The improvement results are based on peer comments, then commented on and given a score by the teacher.

The solution taken is considered to reduce the intensity of the use of ICT in learning writing. Therefore, it is deemed necessary to revise the learning steps. The revision made is a draft produced in class typed at home to be uploaded to the Schoology application. This step revision is applied to learning for the next KD, which is writing lecture text.

In a series of trials of the pattern of the application of ICT in learning writing, its application's effectiveness was also examined. The following is conveyed the results of learning to write by applying the pattern of use of ICT.

Learning to write by applying the pattern of use of ICT at SMAN 1 Singaraja is as follows. The average learning outcomes write the report text Observation results in the trial class at SMAN 1 Singaraja, namely Class X MIPA 4, is 83.96. This means that applying the pattern of use of ICT in writing learning can lead students to achieve results in a good category, even almost very good (85–100).

The learning outcomes of writing by applying ICT at SMAN 3 Singaraja are as follows. The average learning outcomes of writing Lecture Texts by applying the pattern of ICT teaching in the trial class at SMAN 3 Singaraja, namely Class XI IBB 2, are 83.21. This average indicates that using patterns of ICT usage in writing learning can lead students to achieve results in good categories, even close to very good (85–100).

3.2   Discussion

There are two interesting findings obtained from this study. The first is the design of the use of ICT patterns in writing learning. It can be fully applied at SMAN 1 Singaraja located in the city but requires modifications in its application at SMAN 3 Singaraja situated on the edge of the town and at SMAN 1 Sawan located outside Singaraja city. There are two reasons for the differences: ownership of supporting devices and skills in utilizing ICT. At SMAN 1 Singaraja, all students in the trial class have laptops and, when the learning takes place, they are asked by the teacher to bring them to school. Thus, students can write drafts and upload them using a laptop at school, unlike the case with SMAN 3 Singaraja. Not all students have laptops. They have difficulty writing drafts on cell phones. Therefore, they must write a draft on paper, copy it to a laptop at home or on a computer rental, and upload it to the Schoology application. It is in line with Hyland's statement [15: 145]. It was stated that ICTs could not be released from computers because, with computers, ICTs are facilitated. It means that computers play an essential role in the use of ICT.

The second interesting finding is that using ICT patterns in writing effectively leads students to succeed in learning to write. At SMAN 1 Singaraja and SMAN 3 Singaraja, the trial class's average learning outcomes were categorized as useful, even almost very good. It is caused by the understanding of ICT in writing learning that brings two positive effects at once, making it easier for students to write and make writing activities more enjoyable. It is in line with the opinions and findings of the following experts. According to [15, p. 146], the most common word processing feature allows us to chop and move, delete and copy portions of text, check spelling and grammar, import images, change the format, and print with quality worthy of publication. All this means that now we can very quickly improve the text. According to [9], the use of ICT in writing learning has brought many benefits. Using video clips of authorship to serve as writing mentors, explaining and facilitating editing and revising processes, and providing publishing opportunities for student writers [9]. Arslan and Sahin-Kizil's [10] research proves that blogs have provided teachers with a beneficial tool in writing learning for middle-level English students at Turkish Universities. Data analysis results show that writing learning that is integrated with blogs results in a more significant increase in

student writing performance. This finding is in line with the findings of Vurdien [11] in Spain. There, it is proven that blogs can motivate students to develop their writing skills through self-reflection and peer feedback.

4   Conclusion

Based on the explanation in the results section and discussion, the following are concluded. The pattern of using ICT in writing learning is:

1. The teacher uploads the text to be studied following the KD to be developed;
2. The teacher invites students to apply the steps of the scientific approach and discovery learning to find the structural and linguistic characteristics of the text being studied;
3. The teacher uploads a theory about structural and linguistic characteristics of text being studied to be read by students;
4. Students download material for writing from material provided by the teacher and from various other sources that the teacher can provide the link;
5. Students write and upload the initial draft of the writing (If the device does not support, this step can be modified with students writing a draft in hand at school, then copying it to a laptop or computer and uploading it at home);
6. In pairs, students examine the work of their friends.
7. Students write the final draft of the writing and upload it.
8. The teacher conducts scrutiny, gives comments and scores on the posts uploaded by students.

The pattern above was influential in leading students to achieve success in learning to write. Their writing learning results have an average of 83 with good categories.

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