Analysis of Design Needs for Mobile Application Development Poetry Creation as a Learning Media for Writing Poetry

(Analisis Kebutuhan Desain Pengembangan Aplikasi *Mobile* Cipta Puisi sebagai Media Pembelajaran Menulis Puisi)

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Abstract: 21st-century education requires learning to be carried out by utilizing technology. To fulfill the demands of the 21st century, teachers should be directed and encouraged to integrate the use of technology-based media into the process of teaching and learning. The present study aims to investigate the needs that inform the development of an application as a learning medium for writing poetry at the high school level. To achieve the objective, the study utilized a qualitative approach involving the stages of data reduction, data presentation, and data interpretation. The data were collected through a questionnaire and interview and analyzed using basic descriptive statistics and qualitative analysis. The results showed that 1) students and teachers expect that the teaching and learning of poetry will utilize technology-based media such as Android-based cell phones. 2) In the Mobile Cipta Poetry application media, the students confirm the helpful features offered by the application, such as diction selection, relaxation music, sharing works, poetry manuscript banks, and peer evaluations. These findings indicate that the design of the Mobile Cipta Poetry (MCP) application has met the students' and teachers' needs. The study concludes that the difficulty and lack of motivation that the students face during the poetry writing activity may occur due to the lack of technology-based media. Therefore, it is necessary to develop IT-based media that can support the poetry writing process in the classroom.

| Keywords | needs analysis, application design mobile cipta puisi (MCP), poetry writing |

Abstrak: Pendidikan abad XXI mengharuskan pembelajaran dilaksanakan dengan memanfaatkan teknologi. Sebagai bentuk aksi nyata dalam mencapai tuntutan abad ke XXI, guru harus mulai diarahkan pada pemanfaatan media berbasis teknologi. Adapun tujuan dari penelitian ini, yaitu untuk mendeskripsikan kebutuhan yang diperlukan untuk mengembangkan sebuah aplikasi sebagai media pembelajaran menulis puisi di jenjang SMA. Metode yang digunakan ialah penelitian deskriptif kualitatif melalui tahapan reduksi data, penyajian data, dan penarikan kesimpulan atau verifikasi. Kemudian dalam proses pengambilan data, data dikumpulkan melalui teknik angket dan wawancara. Data yang terkumpul melalui angket diolah dengan menggunakan statistik deskriptif dasar, sedangkan hasil wawancara diolah dengan proses review. Hasil penelitian menunjukkan bahwa 1) siswa dan guru menginginkan adanya media pembelajaran menulis puisi yang memafaatkan telepon seluler berbasis android. 2) Dalam media aplikasi MCP siswa setuju adanya fitur pemilihan diksi, musik relaksasi, berbagi karya, bank naskah puisi, serta evaluasi dari teman sejawat. Dari hasil temuan tersebut, dalam penelitian ini digambarkan pula desain aplikasi *Mobile* Cipta Puisi (MCP) yang disesuaikan dengan hasil analisis kebutuhan siswa dan guru. Simpulan dari hasil penelitian ini menunjukkan bahwa kesulitan dan kurangnya motivasi siswa dalam menulis puisi terjadi karena belum adanya media berbasis teknologi yang digunakan dalam pembelajaran menulis puisi. Oleh karena itu, diperlukan adanya pengembangan media berbasis IT yang dapat mendukung proses pembelajaran menulis puisi.

| Kata Kunci | analisis kebutuhan, desain aplikasi mobile cipta puisi (MCP), menulis puisi |

INTRODUCTION

Today's technological developments are part of domestic manufacturing and modernity, interpreted as a positive attitude towards renewal and change (Mujiningsi & Dadang, 2020). According to LinkedIn's list of ten skills, tech skills are the most desirable at this age (Aoun, 2017). This condition disrupts all fields that encourage civilization to change, develop and advance (Fitriyani & Sumiyadi, 2020). Therefore, human resources with a high level of education and master technology are needed. To support this, attention is required from the educational environment when serving students, especially when providing technology-based learning. In addition, education must meet the growing demand for developing technology. Digital development in education must be developed in hard and soft skills, including mastery of effective, creative, and selective digital learning media literacy skills (Setyowati et al., 2022). In this digital era, a professional teacher in all fields must be utilizing technology in learning (Dymoke & Hughes, 2009). Moreover, the big challenge in the era of Revolution 4.0 regarding the learning process, especially in secondary education, is to improve teacher competence (Wesnawa et al., 2022).

The use of digital technology in learning and developing internationally (Wyatt-Smith & Kimber, 2005; Burn & Durran, 2007) Currently, technology is an essential component in determining the effectiveness of the learning process (Yanti et al., 2023). Technology can be a learning medium to support and improve students' abilities (Xerri, 2012). The results showed that technology has a positive impact on students. Then, if a teacher wants to arouse students' interest in writing, they must carry out technology-based learning (Dymoke & Hughes, 2009). In learning to write poetry in the digitalization era, to provide an efficient, enjoyable, and effective learning experience, teaching materials for writing poetry must be varied and innovative. This is because innovation is an alternative to avoid students' boredom in following learning (Fauji et al., 2021). In this regard, finding learning tools that innovate is significant. Developing poetry writing innovations can be acquired through digital media that can provide opportunities to support and inspire the writing process (Kangasharju et al., 2022). In this case, digital stationery can be used as one of the innovations that can be developed into a learning medium for writing poetry (Ching, 2018; Dredger et al., 2017; Howell, 2018; Kang, 2018; Nobles & Paganucci, 2015).

Learning to write poetry is different from other types of writing because poetry has structural characteristics that include line structure, stanzas, and rhythm (Wilson, 2007). The language used in poetry also has its distinctiveness because poets want to express the experience of their soul densely and intensely (Sakti & Yulianeta, 2019). At the semantic level, poetry uses metaphorical allusions and parables, which are key elements of poetic language (Wilson et al., 2017). The focus of writing poetry lies in the form and language that makes it different from other texts (Xerri, 2013). Next, Deepa & Ilankumaran (2018) Poetry is a literary work that uses beauty, solid sound patterns, words, and language quality. Writing poetry is categorized as a popular activity within the scope of creativity (Colton & Wiggins, 2012). The creative process of writing poetry is challenging and demands cognitive and intellectual knowledge and linguistic and imaginative play (Wolf, 2006; Certo, 2015). Therefore, writing poetry can improve creative thinking and linguistic skills (Edwards-Groves, 2012; Myhill & Wilson, 2013). The benefits of competence in writing poetry are not only to support language skills but also to enrich the insight and personality of students (Taum, 2017).

Writing poetry, besides improving creative thinking and linguistic skills, provides writing experiences, allowing students to understand their lives (Xerri, 2013). Next, Dymoke & Hughes (2009) said that children who are encouraged to engage in poetry writing activities will experience a process of self-discovery so that they will understand their experiences in everyday life. In addition, through

writing poetry, students can be allowed to express their feelings. Then, Feldman (2011) says writing poetry helps high school students develop insights about themselves and their peers. In learning, poetry writing activities aim to improve the ability of students to express the reality of life in society through language processing so that it reflects attractive beauty (Faisal, 2020).

Preiss (2020) explained that several components in poetry must be considered, namely the components of diction, rhythm and rhyme, figurative language, aesthetics, expression, purpose, rhythm, and formal structure. Then Dymoke (2012) explains two elements in writing poetry: first, the use of language, which consists of vocabulary choices (cliché or not), figurative language, onomatopoeia, alliteration, rhyme, and matra. Both forms of poetry consist of poetry design, line and stanza arrangement, line variations, use of stanzas, and graphic form. Next, Whitworth (2006; 17) states that the things that must be considered in composing a poem are: diction; types of poems; metaphors; parables, as well as images; rhythmic patterns of stressed syllables; blank verse and free verse; syllabic verse; rhyme, near-rhyme, and alliteration; and some verse form. In addition, in writing poetry, a poet must pay attention to three main aspects: creative themes, poetry structure, and novelty (Preiss, 2020). Meanwhile, theory by I.A Rischards (1930) explains that there are four functions of meaning that must be understood in understanding poetry. The four functions of meaning are summarized in the term "Four Kinds of Meaning," which consists of sense, feeling, tone, and intention.

Learning to write poetry is a familiar thing that needs to be researched. However, this digital era requires academics to be able to answer the challenges of the times in developing learning technology. This follows the opinion of Kangasharju et al. (2022), that writing poetry in high school with the support of digital tools is a topic that is studied today. However, at the initial observation stage, it was found that many teachers still needed to utilize technology-based media in carrying out learning. Teachers are still focused on conventional media in the form of textbooks or LKS. In addition, the current poetry writing learning medium is little, if any, and the learning application is not specifically for learning to write poetry, especially for beginners.

Using conventional media without significant changes in the developed media will result in low-quality learning (Prastowo, 2011). Using digital technology in school learning will increase students' interest in learning to write poetry (Kangasharju et al., 2022). Students can write poetry easily and enjoyably with the affordability of digital tools compared to traditional ones. Some experts also state that to support poetry writing, it is advisable to use computers to motivate and help students to write (Hawkins & Certo, 2014; Merisuo-Storm, 2006). A mobile application is a technology that can be used to learn to write poetry.

Mobile apps are known as software applications for various platforms used by smart mobile devices. Of these applications, thousands can be purchased from the device itself. They can be used to play arcade-style games, search for restaurants, record music, and process photographic images. Read books or other options (McCooey, 2012). Developing applications for writing poetry can be categorized as a medium that supports the learning process. However, a teacher must consider existing provisions when choosing or creating learning media. Sanjaya (2008) explained that in determining learning media, it is necessary to consider the following, which are incorporated in one word: ACTION: 1) access, ease of access; 2) cost, the cost required; 3) technology, availability of technology and ease of use; 4) interactivity, the chosen media can present interactivity or two-way communication; 5) organization, support from the organization or institution where sheltered; and 6) novelty, media novelty.

Some research results related to the use of technology, especially the use of applications to write poetry, have been carried out by previous researchers, including research conducted by Fauji et al., (2021) about developing digital teaching materials for writing Flipbook-based poetry in elementary schools. Faisal (2020) Conducting research regarding developing Android-based application media in learning to write poetry. Then, the research deals with integrating students' creative abilities with digital tools to create poems (Gonçalo Oliveira et al., 2019). Furthermore, research was carried out by Sari (2020) about the trial of Quantum Learning collaboration with the Schoology application on the

Blended Learning Tool for learning to write poetry. Previous research contributed to the implementation of learning to write poetry using technology. However, there are still some things that must be considered in developing and choosing technology-based learning media.

This study aims to describe the needs needed in developing a learning media application for writing poetry at the high school level. The novelty of this research lies in the developing poetry writing applications designed according to the needs of students and teachers. Researchers conducted a needs analysis from previous research, questionnaire distribution, and interviews with teachers' representatives to obtain material in designing poetry writing applications. Researchers can create a poetry writing application called *Mobile*-Cipta Puisi (MCP) from the data obtained. In this application, several features are tailored to the needs of students and teachers.

METHOD

This research is part of development research using an R&D (research and development) approach. The method used is ADDIE (analysis, development, design, implementation, and evaluation). In this article, the new stage implemented is analysis. The first stage of this development method is to analyze the needs of students and teachers in learning to write poetry, especially in the development of learning media. The results of this needs analysis research will be used as a foundation for the development stage to develop learning media in the form of poetry writing applications - planned application, that is, the application *Mobile Cipta Puisi* (MCP).

Data collection techniques used include questionnaires and interviews. The selected research subjects were class X, XI, and XII students representing SMA, SMK, and MA, with data collected totaling 215 students and 4 teachers who filled out questionnaires. Then, the discourse was carried out for four class X teachers. At the data analysis step, it was carried out with interactive data analysis proposed by Miles, Huberman, and Saldana. The stages after data collection include activities: (1) data reduction; (2) presentation of data; and (3) conclusion or verification. The following is the process of implementing the research carried out:

1) Identify the needs of students to develop learning media in the form of poetry writing applications. At this stage, the data collected through the questionnaire is verified according to the needs.

2) Compile data that is certain in a systematic and orderly manner, so it is easy to understand. Data related to the development needs of MCP application design is arranged systematically so that it is easy to understand.

3) Verifying the data that has been compiled: The collected data is verified and then adjusted to the research objectives to reach a definite conclusion. Verification is intended so that the assessment of the suitability of the data with the purposes contained in the basic concepts of the analysis is more precise and objective.

Create a poetry writing application design in the form of a *pordcart* Mobile Poetry Creation application. At this stage, discuss with IT experts who will design the MCP application model. The design to be made is adjusted to the results of the initial needs analysis obtained.

RESULTS AND DISCUSSION

Writing poetry in secondary school is still categorized as learning that is considered difficult by students. This is illustrated by the results of the analysis of questionnaires distributed to 215 secondary students, where as many as 123 students expressed difficulties in participating in learning to write poetry.

The lack of interest of students and the difficulty in writing poetry is one of the challenges for teachers to motivate students to like learning to write poetry and help students improve their ability to write poetry. Writing poetry is not an instant activity. In this case, it takes a process and tenacity to continue writing, as expressed by experts, that motivation, emotional aspects by considering writing as a pleasant thing and combined with a diligent approach in writing will be able to improve the quality of writing (Dymoke, 2017; Niemi & Multisilta, 2016; Troia et al., 2013). In addition, motivation and

creative thinking can affect students' ability to manage writing activities (Hamilton et al., 2013; Wang, 2012).

The results of this study also try to explore how technology-based media can help middle school students increase motivation and their ability to write poetry. Technology-based media can attract students' attention to learning. Kangasharju et al., (2022) explain that digital tools can change positive perceptions about challenging forms of poetry learning. Digital tools, such as poetry apps, offer opportunities to motivate students to carry out learning as well as increase students' interest in learning to write poetry. In addition, innovative digital tools, if used as teaching media by teachers, will be able to mediate students in improving their writing competence (Ching, 2018; Dredger et al., 2017; Howell, 2018; Kang, 2018; Nobles & Paganucci, 2015). The following are the results of the analysis of questionnaire processing and interviews, as well as the design of the application MCP.

Results of the Questionnaire and Interview Processing

Data was taken through questionnaires, related to the analysis of needs needed and expected by students and teachers in the development of MCP applications. The results of this need analysis are used to design applications that are useful and needed by students and teachers to be able to support the learning process of writing poetry. Table 1 and Diagram 1 describe the results of the study.

Table 1
Description of Questionnaire Results on Student Conditions and Expectations
for Application Development Mobile Cipta Puisi (MCP)

No	Indicator	Result
1	Feelings when participating in poetry writing	• 80 Students replied happily. • 123 replied less than happy • 12 replied unhappy
2	Teachers use learning media in the form of applications that exist for learning to write poetry	• 102 Students answer yes • 113 students answer no
3	The operating system of the smartphone used	• 197 andoid • 12 IOS • 3 Windaows Phone • 2 Blackbery OS
4	Desired and preferred type of learning	• 33 students answer Learn without music, songs, or instruments. • 182 Learn by listening to music, songs, or instruments
5	The expected music relaxation features take shape	• 167 Song • 48 Instruments
6	A desirable genre of relaxation music to help foster imagination when writing poetry	• 85 Pop • 45 Nature Sounds • 43 Classical • 17 Dangdut • 11 Indie • 14 Other

Table 1 describes students' current situation and expectations regarding the desired learning medium for writing poetry. In the first statement indicator about students' feelings after learning to write poetry, many answered that they were less happy. Some of the reasons revealed by students from the questionnaire results include difficulty; not liking to make poems; and difficult straining words. Learning poetry is boring, and students expected to learn it in more varied methods, and the last reason was not understanding how to write poetry. The answer to statement number 1 was reinforced

by an interview with the teacher, in which the teacher explained that students who did not like poetry had difficulty expressing their feelings through writing. Some of the problems experienced by students include difficulty choosing diction, using *majas*, and stringing words. This was also revealed in previous research, which stated that one of the factors that resulted in students not being interested and having difficulty participating in learning to write poetry was a lack of confidence, no experience, difficulty stringing words, selection of diction, the use of *majas*, and difficulty getting started in writing (Kartini et al., 2022; Devi et al., 2020; Xerri, 2013). In addition, research by Kangasharju et al., (2022) revealed that students find poetry writing activities difficult and boring.

As for some of the reasons put forward by students who like poetry, namely, learning poetry can hone critical thinking skills and empathy for the environment. Through poetry, students can express thoughts and feelings for life that can strengthen the human side, find sensations, and train to connect the deepest feelings by stringing words and sentences. The results of this finding are also supported by expert opinions that state that by writing poetry, students can be allowed to express feelings, develop insights, and pour the reality of life in society into a beautiful form of writing (Dymoke, Sue; Hughes, 2009; Feldman, 2011). This is in line with the results of the study by Xerri (2013), which revealed that writing poetry can improve students' linguistic knowledge and skills, improve language acquisition through listening activities, develop vocabulary, learn to read and write, and think creatively.

In the second statement indicator about teachers utilizing learning media in the form of applications in learning to write poetry, 102 students answered 'yes' and 113 students answered 'no'. When asked what application to use, the students answered YouTube, Microsoft Word, Google, Excel, Canva, Google Classroom, Google Form, and Brainly. When viewed from students' answers regarding the application used, teachers only use general media and have not used special applications to write poetry, such as Waatpad, Storial.co, JotterPad, Mirakee, English Poets and Poems, Poems, Steller, or others. In addition, during an interview with the teacher, the teacher stated that they needed to become more familiar with current poetry writing applications obtained through Play Store. Teachers only use Power Point, Canva, and YouTube media. This phenomenon, of course, must concern teachers in improving their professionalism. This is because, according to (Dymoke & Hughes, 2009), teachers, as professionals in all fields of study, are expected to have skills and be proficient in utilizing digital technology in learning.

The following statement is one of the data points for developing the MCP application related to the smartphone operating system used. This supports the development of the MCP application as a medium for writing poetry applications by utilizing cellular phones. After distributing questionnaires to representatives of high school, vocational, and MA students, data was obtained that most of the students who filled out the questionnaire—197 students out of 215—answered using mobile phones with Android. The rest use iOS, Windows Phone, and Blackberry. The use of Android that is so common among students, shows that Android-type cellular phones provide them convenience. This is reinforced by some experts who state that the Android operating system is one of the platforms that is open to being able to develop software from third parties because the development process is very free (Jiaqi et al., 2012).

Regarding to the statement of the type of learning that students like, most students answer that they enjoy learning by listening to music, songs, or instruments. Music is one of the media that can calm the mood and motivate students to learn. Therefore, Porter & Henracki (2001) Said to support a fun learning process, the classroom atmosphere can be designed by adding supporting devices, such as plants, aromas and music. Johansson (2006) also explained that music is a special uniqueness created by humans and has a powerful capacity to convey and regulate emotions. In addition, music can change students' mental state, set the mood, and support the learning environment (Prima, 2018).

Then, in the following statement, when asked which one preferred whether the music was an instrument or a song with lyrics, 167 students answered that they preferred to listen to songs with lyrics directly rather than musical instruments alone. In addition, the types of music most chosen by

students in ranking are: 1) pop 2) the sounds of nature 3) classic 4) dangdut and 5) indie. In this study, pop songs became students' first choice to support learning activities. These results also correlated to the survey results. Litbang Kompas In 2015, music genres favored by young people were pop (66.7%), rock (10.4%), jazz (6.9%), and other music (15.0%) (de Fretes, 2021). However, when viewed from the perspective of education, classical music has the privilege of being able to educate students. According to the research report (Wahzuni, 2017), classical music, especially the Baroque period, can improve adolescent emotional intelligence. Then, research by Saifudin & Wijaya (2016) states that classical music can reduce juvenile anxiety levels.

Furthermore, through questionnaires distributed to students and teachers regarding features to support the design of the MCP application, the data described in Diagram 1 was obtained.
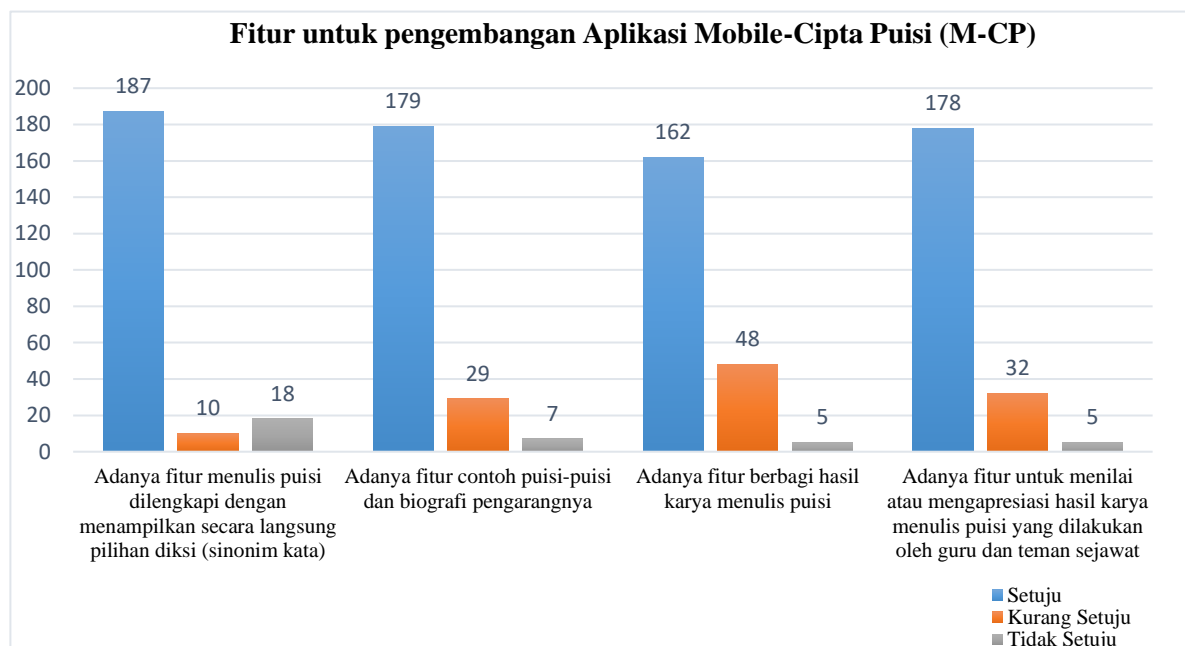

Diagram 1
Fitur Pengambangan MCP

In Diagram 1 of the overall questionnaire results, all statements are dominated by blue, meaning that many students agree if there are features that the researcher plans to plan in the MCP application. This MCP application is focused on a learning medium for writing poetry for high school students or equivalent. There are four main features that will be present in this application, namely: 1) the ability to write poetry that is equipped with synonymous diction; 2) a collection of poems supplemented by biographies of its poets; 3) the ability to share poetry works; and 4) the ability to assess or appreciate the work of others, both by teachers and peers. In addition to four features, as a supporter, there is also a feature that provides a collection of music for relaxation.

The data from the questionnaire results in Figure 1 are supported by the statements of teachers and students during interviews. Some answers from interviews with teachers and students regarding MCP design, namely:
a) Teachers and students agree on the existence of a feature of writing poetry that is complemented by the help of the selection of diction or word synonyms. According to them, this is necessary because one of the most critical difficulties for students in writing poetry is in the diction selection section. With synonyms and diction choices, it is expected to help students to develop their poetry quickly.
b) The existence of biographical features and poetry works of famous poets, according to them, provides a way for students to appreciate the poet's literary works and can be used as an example to be able to make poems.

c) Students and teachers desire the feature of sharing poems, because, so far, student work only ends up inside student or teacher notes. With the sharing feature, students will feel happy and appreciated because their work can be read by others and receive appreciation. In addition, students' literary works will be stored for a long time as a collection of portfolios that, in the future, can be published as a book with an ISBN.

Application Design *Mobile*-Cipta Puisi

Based on needs analysis and several theoretical views, technology-based media positively impacts the learning process. Most research on poetry learning is directed at reading, interpreting, and producing products with the help of technology. The results show that technology supports developing poetry writing activities in high school students (Kangasharju et al., 2022; Myhill & Wilson, 2013; Xerri, 2013). This study describes the design of the learning media offered to high school students. The media offered is in the form of an application called Mobile-Cipta Poetry (MCP). For more details, the MCP application can be seen in Figure 1.

Figure 1
In-App Feature Availability Design *Mobile*-Cipta Puisi

The poetry creation feature serves to write poems with the help of diction selection in the form of word synonyms that will directly appear when the writer starts writing. The choice of diction is expected to help students develop poetry through by selecting varied diction to produce beautiful poems. One of the reasons for the help of synonyms in diction choice is that, according to the results of interviews, students have difficulty choosing diction. In writing poetry, diction is crucial because poetry is a literary work that uses sound patterns, words, and language quality as popular activities within the scope of creativity. In addition, poetry is also challenging and demands cognitive and intellectual knowledge in linguistic and imaginative games (Deepa & Ilankumaran, 2018; Certo, 2015; Colton & Wiggins, 2012).

Relaxation music is presented in the MCP application to help students feel relaxed and comfortable and to stimulate imagination, which can be delivered through music when writing poetry. As revealed by Porter & Henracki (2001), the classroom atmosphere can be designed by adding supporting devices such as plants, aromas, and music to keep a fun learning process. It is also supported by the opinion of Prima (2018) that music can set the mood, change students' mental states, and support the learning environment. The music accompanying students in the application is adjusted to the students' interests. According to the data in Table 1, the music provided is classical instruments

(natural sounds and classical musical instruments), pop, classical, dangdut, and indie genre songs. Then, the 'Your Poems' feature contains a collection of poems by the author himself, in which there are also appreciation results from colleagues in the form of likes, stars, and objective values from teachers. Furthermore, the "search poetry" feature contains a collection of poems and biographies of famous poets. This feature is presented to introduce poets and their works to students as a form of appreciation so that students can understand poetry and literature.

CONCLUSION

The Poetry Creation Mobile Application (MCP), as one of the learning media for writing poetry, is designed according to the needs of students and teachers in secondary schools. The findings of this study, namely first, show that there are still many high school students who do not like learning to write poetry because they find it difficult, do not like to make poems, find it difficult to string words, find poetry learning very boring, find it too monotonous, and do not understand how to write poetry. 2) The MCP application design offered will contain features 1) writing poems equipped with the help of word synonyms; 2) relaxation features consisting of instruments in the form of nature sounds and classical musical instruments, while for music with lyrics including pop, classical, dangdut, and indie; 3) features of your poem; 4) Sharing feature 5) Poetry Search feature; 6) Evaluation features.

The implications of the results of this study provide benefits for students and teachers, especially in the selection of learning media, and they can take advantage of the MCP application for high school students as novice writers. The MCP application in the future can also be used by the public who want to work by writing poetry. Therefore, based on the results of this research, the MCP application will soon be further developed and validated by experts so that it can be immediately applied in the field. Continuing of the article, this study recommends teachers use technology-based learning media, especially Android-based applications. In addition, teachers need to develop their competence by trying to find information regarding the application of poetry, which is growing a lot.

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