Transforming Correspondence Learning Through Microlearning-Based Media for Vocational High School Students

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Abstract

The rapid development of digital technology requires innovative learning media to improve the student learning experience. This study discusses the development of microlearning-based correspondence learning media designed for Vocational High School (SMK) students under the auspices of the Indonesian Association of Scholars and Office Administration Practitioners (Aspapi) in Jakarta area. The main problem in correspondence learning is the limited effective media to increase students' focus and learning independence. Students often have difficulty in structuring sentences when writing letters and are reluctant to think deeply due to the familiarity with informal communication through social media as well as a lack of knowledge of formal correspondence. This research aims to develop microlearning-based learning media in correspondence learning. The method used is Research and Development (R&D) with the Dick & Carey development model, which includes needs analysis to summative evaluation. The respondents in this study are students of Aspapi's partner vocational schools in Jakarta. The results show that microlearning-based learning media significantly increases the effectiveness of correspondence learning. Students demonstrate better comprehension and increased learning independence thanks to concise and directed microlearning content, in accordance with their digital communication habits. Interactive and accessible media design also helps to overcome low literacy competence and student learning motivation. Based on the above findings, it can be concluded that the development of microlearning-based learning media has proven to be an effective solution in overcoming challenges in correspondence learning. This media is able to improve students' writing skills, critical thinking, and learning independence, so similar innovations are recommended to be applied to other administrative and vocational subjects.

Keywords: Correspondence learning, Microlearning, Office Administration, Vocational High School

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INTRODUCTION

The development of educational technology in recent years has brought significant changes in the way educational institutions deliver material to students. Technology not only offers efficiency in learning management, but also creates

new, more innovative ways to improve the quality of education. One of the innovations that is growing rapidly is microlearning, which is a learning approach that emphasizes the division of material into small units that can be learned in a short time. This approach leverages a variety of digital media, such as short videos, to deliver content that is relevant and easy for students to understand. Microlearning has been shown to improve learning effectiveness by increasing student comprehension, retention, and learning independence (Bruck et al., 2012; Hurst & Thomas, 2018; Cavus & Ibrahim, 2017).

Microlearning has a number of advantages that are very relevant in the context of formal education, particularly in the teaching of practical skills that require a quick and applicative understanding. The material delivered in a concise and concise format allows students to focus on a single topic or specific skill without feeling overwhelmed by too much information. Thus, students can learn more effectively and efficiently, and their memory of the material will last longer. This concept has been widely applied in various fields of education, both at the primary, secondary, and higher education levels. However, the adoption of microlearning in formal learning, especially in correspondence subjects in Vocational High Schools (SMK), is still very limited.

Correspondence is one of the basic competencies taught in the Department of Office Management and Business Services at SMK. This subject aims to equip students with the skills of writing official letters in accordance with the correct format and using the right language. This ability is very important, especially in the world of work in the office sector, where written communication plays a very vital role. However, correspondence learning at SMK Jakarta often faces various challenges, such as the lack of effective and interesting learning media, as well as the dominance of lecture methods that tend to make students passive. In addition, time constraints are also an obstacle, because teachers have to deliver complex material in a limited time.

Vocational school students often face difficulties in learning formal writing skills, as they are accustomed to a more relaxed and informal style of communication through social media. As a result, they are less familiar with the standard language and standard-compliant writing format. This is one of the reasons why students' literacy skills in the field of correspondence are not developed optimally, which leads to a competency gap between vocational school graduates and the needs of the world of work. Therefore, a more practical, effective, and in accordance with the times is needed to support the correspondence learning process.

Microlearning can be the right solution to this problem. This approach allows learning materials to be delivered in small pieces that are easy to understand and can be absorbed in a short time. The use of short videos as a learning medium in microlearning can improve students' focus, their involvement in learning, and understanding of the material presented. Research conducted by Mohammed et al. (2018) shows that microlearning can improve student learning outcomes by up to 18% compared to traditional learning methods. This proves that microlearning can have a significant impact on the quality of learning, including in the field of correspondence.

In addition, Ayu and Citra (2020) also emphasized that the use of interactive learning videos in distance learning can increase students' learning independence, a

very important skill for students to have, especially in today's digital era. Another study by Mayer (2009) supports the use of multimedia in learning, by showing that the combination of visual and audio elements in the learning process can improve student comprehension. Chen & Carliner (2020) and Ruiz et al. (2006) also emphasize the importance of using short videos in learning, especially in teaching complex skills such as writing formal letters.

The following is a table of previous research that has discussed microlearning in learning.

Table 1. Previous Research

No	Author and Year	Research Title	Key Results
1	Tabbers, H., Martens, R., & Van Merriënboer, J. J. G. (2004)	Multimedia instructions and cognitive load theory	This study shows that multimedia designed according to cognitive load theory can improve student comprehension.
2	Giurgiu, L. (2017)	Microlearning as innovative process of knowledge integration	Microlearning allows for easier and more efficient integration of knowledge, supporting students' autonomous learning.
3	Mayer, R. E. (2009)	Multimedia Learning	The use of multimedia in learning, including short videos, is effective in supporting information processing through dual-channel (visual and auditory).
4	Schmidt, S. J., & Ralph, D. L. (2016)	The Flipped Classroom and Microlearning	The combination of flipped classroom learning with microlearning helps students learn concepts independently before group discussions in class.
5	Park, S., & Lim, J. (2020)	The impact of microlearning videos on student engagement and performance	The use of video microlearning increases student engagement in learning and results in better academic performance compared to conventional methods.
6	Zhang, L., & Li, Y. (2021)	Exploring microlearning for digital skills development	Video-based microlearning improves students' mastery of digital skills efficiently, especially on project-based learning.
7	Prieto, J., & Fuentes, A. (2022)	Microlearning as a strategy to improve vocational skills	The use of microlearning is effective in improving the vocational skills of vocational school students with modular methods that are flexible and relevant to the world of work.
8	Singh, A., & Mathur, S. (2023)	The role of microlearning in enhancing student engagement in online courses	Short videos in microlearning have been proven to increase student engagement and information retention in online courses compared to conventional methods.
9	Navarro, E., & Flores, R. (2022)	Mobile-assisted microlearning for language acquisition	Mobile app-based microlearning helps students improve language skills through consistent, small activities.
10	Patel, R., & Kumar, M. (2023)	A comparative study on traditional learning and microlearning techniques	Research shows that microlearning techniques are more effective than traditional learning in improving conceptual understanding in mathematics lessons in schools.

Although many studies have discussed the use of technology in education, the application of microlearning for correspondence learning in vocational schools is still very rare. Most of the research focuses more on the application of microlearning to theoretical subjects, while the use of this approach in teaching practical skills, such as correspondence, has not been widely discussed. Therefore, this research aims to fill this gap by developing microlearning-based learning media specifically designed for correspondence subjects at SMK Jakarta.

This microlearning-based learning media will be developed by considering the national curriculum and local needs, so that it can provide contextual and applicative solutions for students. The learning materials will be presented in a short video format that is easy to understand, interesting, and easily accessible by students, so that they can learn at their own pace. In addition, this media is also expected to support the development of practical skills that are relevant to the needs of the world of work, especially in the office sector.

Microlearning-based learning media has become a trend, especially with the widespread use of digital technology. Microlearning is a learning method that presents information in small, easily digestible pieces, usually through short video formats or digital applications, thus allowing students to learn at their own needs and pace (Hug, 2005; Buchem & Hamelmann, 2010). This approach is considered effective in improving information retention, student engagement, and flexibility in the learning process (Bruck, Motiwalla, & Foerster, 2012).

At the global level, microlearning has been used to support competency-based learning, especially in training practical skills relevant to the world of work (Dullaghan et al., 2021). Several studies show that the use of short videos as a microlearning medium can increase learning effectiveness because it is interesting, interactive, and easily accessible to students through digital devices (Geng et al., 2019).

However, in the context of vocational education in Indonesia, especially vocational schools, the application of microlearning is still rarely used systematically and contextually in accordance with local needs and relevance to the national curriculum. This learning media is not only designed for students, but also provides significant benefits for teachers. This media serves as an innovative tool that allows teachers to deliver material in a more systematic, efficient, and interactive way. This research fills this gap by focusing on the development of learning media that supports the correspondence competence of vocational school students, which is relevant to the demands of the world of work, especially in the office sector.

Through this research, it is hoped that an effective solution can be found that can improve the correspondence competence of vocational school students. By using microlearning-based learning media, it is hoped that the learning process can run more efficiently, fun, and in accordance with the needs of the world of work. In addition, this media also provides benefits for teachers, because it can be used as an innovative tool to convey material in a more interactive and systematic way. Thus, this media can help create a more modern learning ecosystem, in accordance with the demands of 21st century education.

Good correspondence skills are essential to prepare vocational students for an increasingly competitive world of work. Through the proper use of technology, such as microlearning, it is hoped that students can acquire the necessary skills to

communicate professionally and effectively. Thus, this research aims to develop microlearning-based learning media that can improve the correspondence skills of vocational school students, simplify the learning process, and prepare them for the increasingly demanding world of work.

METHODS

The method used in this study is Research and Development (R&D), which aims to develop microlearning-based learning products and test the effectiveness and results of these products. This approach allows researchers to design, develop, and test learning products in the context of real education, as well as ensure that the learning media developed can meet the needs of students and support the expected improvement of competencies (Borg & Gall, 2003; Sugiyono, 2021). In this study, R&D methods are used to ensure that the learning media developed is not only relevant but also effective and efficient in the context of modern education.

The model used in this study is the Dick and Carey Model, which is a very systematic instructional design model and focuses on the learning process as a system. This model consists of several stages that must be carried out in sequence to produce an effective and efficient learning design. These steps include identifying learning objectives, analyzing instructional needs, analyzing students and contexts, developing assessment instruments, and designing and developing instructional materials.

Dick and Carey Model Steps
1. Identify Instructional Goal(s)

The first step in this model is to identify the learning objectives in general. At this stage, researchers need to determine what they want to achieve in correspondence learning, such as improving students' ability to write official letters in the correct format and the right language, as well as understanding ethics in writing correspondence that is in accordance with the needs of the world of work.

These learning objectives must be specific, measurable, achievable, relevant, and time-limited. In the context of this research, the main goal is to develop microlearning-based learning media that can improve official letter writing skills for vocational school students in a short, effective, and practical time. With this goal, the researcher will design materials that are in accordance with the applicable curriculum, but also pay attention to the needs of students who may not be familiar with the formal writing format.

2. Conduct Instructional Analysis

Once the learning objectives are established, the next step is to conduct an instructional analysis to identify what needs to be taught and how to teach it. At this stage, the researcher will analyze the competencies that students must master in correspondence learning. This includes an understanding of the structure of official letters, proper language, and correspondence writing ethics.

This analysis also includes the identification of the order in which the material is delivered, whether it should be taught sequentially or can be studied separately. For example, researchers may decide to break down the material into small units

that focus on a single topic, such as the opening of the letter, the body of the letter, and the closing of the letter, each delivered in the form of microlearning.

3. Analyze Learner and Contexts

Examine student characteristics, such as early abilities, learning styles, and relevant learning contexts (Branch & Kopcha, 2014). At this stage, the researcher will analyze the characteristics of the learners, including their prior knowledge, learning styles, as well as their specific needs in correspondence learning. For example, vocational school students are often less familiar with the formal language used in official letters, as they communicate more often in everyday language or through social media.

In addition, researchers must also consider the context of the place of learning, such as classroom conditions, available technology, and limited time in teaching. The results of this analysis will help researchers to design learning materials and methods that are suitable for the conditions of students and schools. In this case, the use of microlearning-based media in the form of short videos can be an effective solution because students can learn independently according to their own pace.

4. Write Performance Objectives

After analyzing the learners and context, the next step is to write more specific performance goals. These performance objectives will describe what students are expected to do after participating in the learning. This goal must refer to the basic competencies that exist in the curriculum and must be measurable, so that it can be evaluated whether the goal is achieved or not.

For example, one of the performance objectives for microlearning-based correspondence learning is: "Students can compose a formal letter in the correct format and appropriate language, taking into account ethics in writing a formal letter, in no more than 30 minutes."

5. Develop Assessment Instrument

After setting performance goals, the next step is to develop an assessment instrument that will be used to measure the achievement of those goals. This instrument includes different types of assessments, both formative and summative, that aim to evaluate students' skills in writing formal letters.

Formative assessments will be carried out during the learning process, such as a short test after each microlearning unit or an interactive quiz that tests students' understanding of the material that has been taught. Summative assessment is carried out after all material has been taught, for example by giving the task of writing an official letter which is assessed based on the right format, language, and ethics.

6. Develop Instructional Strategy

At this stage, the researcher will design instructional strategies that will be used in the learning process. This strategy includes the selection of teaching methods, interaction techniques, and ways to deliver material effectively. In this study, the strategy used is microlearning, which divides learning materials into small units that are easy to understand and deliver in a short time.

In addition, learning strategies also include the use of multimedia such as short videos, texts, images, and audio that will be used to convey material in a more interesting and interactive way. Short videos will be used to explain the basic

concepts in writing a formal letter, while interactive quizzes will be used to test students' understanding.

7. Develop and Select Instructional Materials

In this step, the researcher will develop instructional materials that will be used in learning. This material includes learning videos, text modules, images, and other teaching materials that are appropriate for microlearning units. The material developed will be adjusted to the learning objectives that have been set and will focus on practical skills in writing official letters.

Researchers will ensure that the material developed is easy for students to understand and presented in an attractive format. Short videos will be compiled with a duration of no more than 10 minutes to ensure that students can learn in a short time and stay focused.

The provision of intelligent "micro learning" learning services is an online learning service that aims to offer users learning materials in a small and personalized form. The workflow of this intelligent micro learning system can be divided into two stages of decision-making, namely the transformation of non-micro learning materials into micro learning materials, as well as recommendations for personalized learning materials.
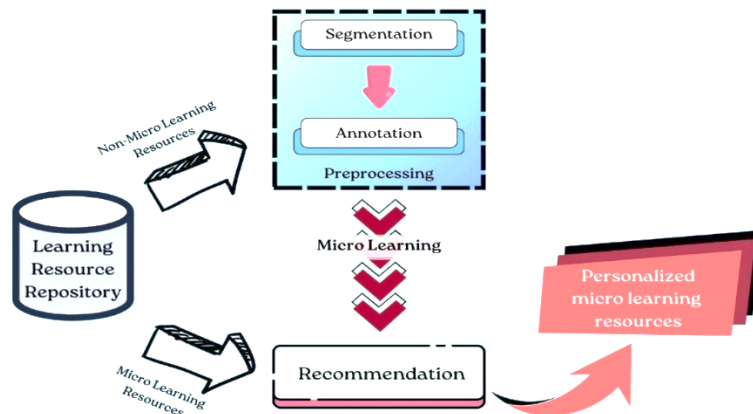

Figure 1. Microlearning Workflow (Source: Jiayin Lin, et al, 2020)

Based on the workflow above, the flow of Microlearning Learning Media Development in correspondence subjects is as follows:
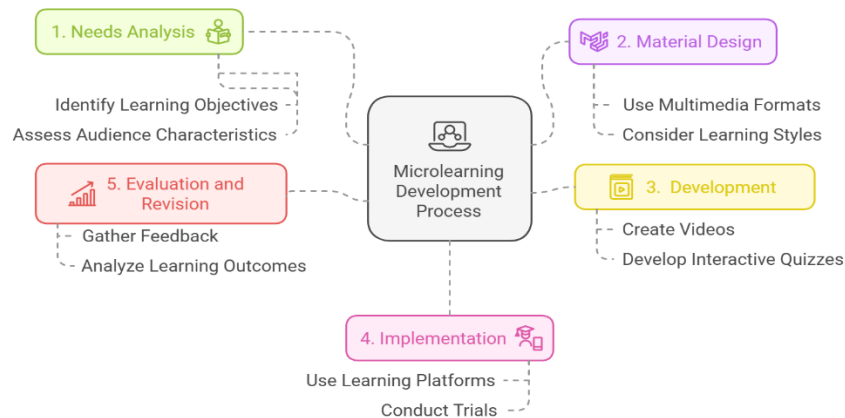

Figure 2. Microlearning Learning Media Development in correspondence subjects

8. Design and Conduct Formative Evaluation of Instruction

At this stage, the researcher will conduct a formative evaluation of the materials and learning strategies that have been developed. This evaluation is carried out to find out whether the materials and methods used are effective in achieving learning objectives. The evaluation was carried out through testing materials in the classroom and collecting feedback from students and teachers regarding the quality and effectiveness of the learning media. Examining the effectiveness of materials that have been developed through implementation in the context of real education (Reiser & Dempsey, 2018).

Based on the results of the formative evaluation, the researcher will revise the material or strategy that is less effective. For example, if students feel that the material is too difficult to understand or the video is too long, the researcher can make changes to improve the quality of the material.

9. Revise Instruction

Based on the results of the formative evaluation, the researcher will revise the instructions and learning materials. This revision aims to correct the weaknesses found during the evaluation. Researchers will adjust the material to make it easier to understand and more effective in supporting the correspondence learning process.

10. Design and Conduct Summative Evaluation

After making improvements and revisions to the instructions and materials, the last step is to conduct a summative evaluation. Summative evaluation was carried out to assess the extent to which this microlearning-based learning media succeeded in achieving learning objectives and improving students' skills in writing official letters. This evaluation can be done through a final test or an official letter writing assignment which will be assessed based on the format, language, and ethics used.

RESULTS & DISCUSSION

Microlearning through video is an innovative method that has proven successful in a variety of learning contexts. This format is designed to make the information easier for participants to understand and remember. Microlearning, which has a short duration, usually around one to seven minutes, helps reduce the cognitive load of participants so that they can focus on the main topic presented. Based on the development of microlearning-based learning media with the Dick and Carey model approach, the resulting product is in the form of a series of short learning videos with a duration of 1-7 minutes. These videos are designed to meet the needs of students in learning correspondence skills efficiently and engagingly. The results of product testing and evaluation include the following aspects:

1. Learning Effectiveness

From the results of the product trial on vocational school students, the average correspondence skills test score increased by 25% after using microlearning-based learning media compared to conventional learning. The rate of student information retention also increased, as seen from the results of the retest after

one week, where 80% of students were able to remember and apply the concepts taught.

2. Student Engagement and Motivation

The survey showed that 90% of students felt more motivated to learn using short videos than the lecture method. As many as 85% of students stated that the material presented in microlearning was easy to understand and relevant to work needs.

3. Ease of Access and Flexibility

95% of students stated that this learning medium is easily accessible through their smartphones. The flexibility of study time provides opportunities for students to repeat the material according to individual needs.

4. Obstacles and Solutions

Some students in areas with limited internet connections have difficulty accessing learning videos. To overcome this, the product is developed in the form of a file that can be downloaded and shared offline.

Microlearning is very helpful for participants to understand and remember information longer because the material is provided in a concise and structured manner so that participants can absorb and internalize the information before moving on to the next stage of learning. With this format, participants do not need to process too much information at once, which is often an obstacle in traditional learning approaches.

One of the advantages of microlearning is the flexibility of time and place it offers. Participants can learn anytime and anywhere using digital devices, such as smartphones or laptops. This allows learning to be more personalized and tailored to individual needs. In online learning, this flexibility is a solution to increase participant engagement, especially for those who have busy schedules or limited time.

Increasing participants' interest in learning can be achieved through dynamic and engaging micro-learning videos. Materials that are equipped with visual elements such as animation, graphics and interactive audio become easier to understand and not boring. Compared to traditional methods that tend to be monotonous, participants become more enthusiastic in completing the learning material. Even complex topics can be conveyed more effectively by using engaging multimedia elements.

Microlearning helps participants who need information in a short amount of time with a few minutes of video. This method is especially beneficial for professional training, where employees need to understand new knowledge quickly and efficiently without disrupting their work productivity. It is also suitable for independent learning, as participants can use their free time to acquire new skills.

Microlearning is becoming a popular tool in informal education for teaching practical or personal skills, such as technical tutorials or personal development. In formal education, these videos help students, like students, understand more complex concepts, as this format focuses on the core of the problem, so students don't feel overwhelmed by too much information at once.

Microlearning has proven to be an effective training method in the workplace. Short videos help employees understand the training material faster and apply it immediately in the workplace. This method supports employees' specific needs for

training, such as acquiring new skills, updating work procedures, or increasing productivity.

In addition, microlearning has a positive effect on health education. Healthcare workers can learn quickly and appropriately from short videos that show medical procedures. They can understand and remember the important processes that improve the quality of healthcare by looking at practical steps in simple form.

Overall, video microlearning has many advantages related to contemporary learning needs. It has been shown to improve retention, time efficiency, and participant engagement by presenting material that is short, flexible, and engaging. Microlearning can also be used in a variety of contexts, such as formal schools, professional training, and health education.

Discussion

Microlearning is a learning method that suits the needs of modern society, especially in the digital era. By presenting material in the form of short videos, it provides a practical solution for people who need flexible, personalized, and accessible learning. However, to maximize its benefits, the application of microlearning faces several problems that must be overcome.

Microlearning has the ability to present material in a concise and focused manner, which makes it easier for participants to understand it, which is one of its main advantages. By utilizing the short duration to convey important information, this format supports more effective learning. Additionally, because of its flexibility, students can learn whenever and wherever they want. This is especially relevant for people with busy schedules, such as professional employees or students studying online.

Duration constraints are a major problem in microlearning. Microlearning is often not enough to provide a deeper understanding of complex topics. Therefore, it must be combined with other approaches, such as face-to-face learning or group discussions. High-quality video production is also an important component that influences learning outcomes. Videos that do not have good audio and visual quality can make participants unfocused, which hinders their understanding of the material.

The implementation of microlearning becomes more difficult in areas with limited internet. Participants may not be able to access the learning videos due to the lack of technological infrastructure. Therefore, there is an alternative solution needed. For example, videos can be downloaded and disseminated offline through physical storage media. To ensure that microlearning is accessible to everyone, governments, educational institutions, and technology providers must work together.

Microlearning requires a strategic approach when designed. Videos should be engaging, relevant, and easy for the audience to understand. Microlearning should also be incorporated into a broader approach to learning. Microlearning can improve participants' understanding of a particular topic when combined with other approaches, such as hands-on practice or simulation. In this way, microlearning is not only an effective learning method, but it is also effective in providing deep understanding.

Microlearning is a relevant and useful method for a variety of contemporary learning needs. The right solution can help address issues such as time, product

quality, and accessibility. Microlearning has great potential to improve education and training in various sectors if it is strategically designed and integrated with other learning methods. Microlearning is expected to play an increasingly important role in supporting flexible technology-based learning.

The results of this study confirm that microlearning is an effective learning method in improving students' skills. This approach is relevant to the needs of learning in the digital era because it presents materials that are flexible, engaging, and easy to understand.

Microlearning utilizes short durations to reduce the cognitive load of learners, as proposed by Zhang & Li (2021). Short videos allow students to focus on the main topic without feeling overwhelmed by information overload.

Microlearning materials that are designed to be relevant to the needs of the world of work have a positive impact on students' practical skills. Prieto & Fuentes (2022) emphasized that modular methods like this are effective for vocational training.

CONCLUSION

Development of Microlearning-Based Learning Media. This research succeeded in developing microlearning-based learning media in the form of videos for correspondence materials for vocational school students majoring in Office Management and Business Services in Jakarta. This media is designed to provide efficient, short, and effective learning, and according to the characteristics of students who tend to be more interested in technology-based and visual-based learning.

Expert Tests and Evaluation. At the stage of the test of instrument and material experts, the video developed received positive feedback regarding the feasibility and relevance of the correspondence material presented. Material experts and instrument experts provide constructive recommendations for improving the material and presentation of the video to make it clearer and easier for students to understand.

Potential and Challenges of Advanced Development. Further development will involve piloting this medium on students in the field to measure its impact in improving students' understanding and motivation in learning correspondence material. This medium has great potential to improve students' practical skills in the field of Office Management and Business Services, but further evaluation is needed regarding video duration, audio-visual quality, and student response.

Research Implications. This research shows that microlearning media can be an innovative learning solution and in accordance with the demands of the 21st century. Further implications are:
1. For Students; Provide a more enjoyable learning experience that is relevant to their practical needs.
2. For Teachers; Provide interactive and easy-to-use learning aids.
3. For Educational Institutions; Providing opportunities to improve the quality of learning with a technological approach.

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