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ANALYSIS OF NEEDS FOR A DIGITAL AUTOMATED SHORT ESSAY SCORING (ASES) BASED ASSESSMENT MODEL IN ENGLISH LEARNING IN VOCATIONAL SECONDARY SCHOOLS

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Abstract

The aim of this research is to look at the needs analysis of the digital-based assessment model Automated Short Essay Scoring (ASES) in English language learning in Vocational High Schools. This research is a research and development (R&D) research carried out in the Computer Network Technology Department at SMK Negeri 1 Percut Sei Tuan. This research is included in mixed methods research with the assessment development model used, namely the Borg and Gall model which consists of ten stages,: needs analysis, development plan, initial product development, initial test or one-on-one test, initial product revision, field test, product revision, field implementation test (operational test), revising the final product, and implementation in the field. This research focuses on the first step of all the steps in developing the Borg and Gall model above, namely needs analysis activities. The results of this research show that the implementation of digital assessment models needs to be carried out in English language learning. The use of ASES digital-based assessment media is an urgent need for assessment to be implemented to take into account the knowledge, skills, dispositions and attitudes needed to equip students to keep up with the increasingly changing digital world. Furthermore, identification of the development of the ASES digital-based assessment model in English language learning at Vocational High Schools was carried out by conducting FGDs with teachers and students of SMK Negeri 1 Percut Sei Tuan resulting in an agreement that in learning English students need to be equipped with digital skills.

Keywords: *ASES; assessment model; English language learning*

1. Introduction

In a learning activity carried out by a teacher, there are three main abilities required, namely the ability to plan material and teaching and learning activities, the ability to carry out and manage teaching and learning activities, and assessing student learning outcomes. In other words, a teacher must carry out preparation, learning management and assessment. Without ignoring the preparation stages and learning activities, it is important

to carry out assessment activities where teachers obtain information about students' abilities which is important for teachers to make improvements for subsequent learning activities (Canggung, et al., 2022).

Assessment is one of the most important components of learning. Assessment plays a role in informing learning by providing students with information that addresses the gap between their current and desired learning outcomes (Bulut, et al., 2019). Assessment can be done in various forms of questions. However, in general teachers use an answer matching pattern, namely multiple choice. As technology develops, various test technologies have emerged that can match student answers in forms other than multiple choice by utilizing the role of artificial intelligence. With this artificial intelligence, student answers in the form of essays become more accurate and reliable to avoid human error in checking student answers.

The application of technology has become mandatory in recent years in the educational process both during and after the pandemic. Apart from students being able to enjoy this application method, teachers can also make it easier to apply this technology. The existence of technology will be very useful in improving the quality of learning (Hizer, et al., 2017). As time goes by, many types of assessment models have emerged. One of them is a digital-based assessment model. Digital-based assessment provides convenience for teachers and students in the form of ease in assessing the quality of student work and following up on student assessment results (Wijayanti, et al., 2023).

However, digital-based learning and assessments are generally used in assessing student assignments; teachers often find that the assignments given by students are the same as each other. This is what is experienced by English teachers who teach at SMK Negeri 1 Percut Sei Tuan. Teachers found that many students' test results or assignments were similar among students, which made teachers need more time to assess students' assignments or tests. To help English teachers, a digital-based assessment model is needed that can assist teachers in assessing student assignments and tests and also encourage students to be wise and intelligent in using technology. The digital-based assessment model in question is the Automated Short Essay Scoring (ASES) assessment model. It is believed that the presence of a digital-based assessment model can encourage students to complete their assignments and tests more accurately, quickly and precisely. This assessment model can be used to provide essay answer corrections automatically, quickly, easily, effectively and efficiently (Susilawati & Khaira, 2023).

2. Literature Review

2.1 Digital Assessment Model ASES

ASES is part of the Automated Essay Scoring (AES) assessment models developed by Page (in Dikli, 2006) which is the development of a computer-based assessment model (Computer Assisted Assessment). One of the AES models is the ASES model developed by Pribadi, Utomo, and Mulwinda (2018).

The ASES model concentrates on assessments that use computer-based digital technology by assessing students' essay answers, which include checking writing style, grammar, essay coherence and assessing students' short answers. ASES is a computer-based assessment system that automatically assigns grades to the answers given by students (Ke and Ng, 2019).

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Digital-based assessment Automated Short Essay Scoring (ASES) is "a digital-based assessment system that automatically assesses student work or assignments by considering appropriate features" (Ramesh & Sanampudi, 2022). Several decades ago, the basis for applying ASES in the field and educational institutions already emerged. however, its widespread and comprehensive implementation has not yet occurred (Machicao, 2019). The main goal of implementing ASES in educational fields and institutions is to reduce the time, costs, and other resources required for assessment and eliminate reliability problems associated with manual assessments carried out by teachers (Lim et al., 2021).

ASES is one way to improve the quality and guarantee the quality of student assignments (Susilawati, 2022). Tshibalo (2007) notes that computer-assisted assessment enables assessment; direct feedback, recording student grades, and analyzing student performance for processing by computers, thereby reducing the workload of educators. However, despite the advantages of digital-based assessment models, especially essays, also known as automated short essay assessment (ASES), this assessment has not been implemented widely and optimally (Machicao, 2019).

The ASES assessment model is able to work well and can function flexibly and be used anytime and anywhere so that it is more flexible, efficient and accurate in assessing students' answers. The safety of using the ASES assessment model as a digital assessment model is beyond doubt. With the involvement of technology in the use of the ASES assessment model, we will be able to build a future of digital assessment models that are more accurate, reliable, practical and economical.

2.2 English Language Learning in Vocational High Schools

The English language learning system in vocational high schools (SMK) usually includes aspects of speaking, listening, reading and writing skills with a focus on the context of a particular job or industry. Relevant English language learning for vocational schools can involve communicative, contextual or task-based approaches. However, it is also important to consider aspects such as the integration of technology in learning English in the digital era.

English is one of the appropriate and appropriate subjects for implementing digital-based learning because student learning outcomes have not achieved the expected results even though English is one of the subjects that students have studied since entering elementary school and the teaching and learning activities only focus on textbooks (Nasution, Siddik, and Manurung, 2021).

In using technology in the classroom, teachers have a main role in the teaching and learning process to integrate English language lessons with technology (Indirani & Wirza, 2020). Even though teachers have an optimistic view of the use of technology in the classroom and are aware of the benefits of technology, in reality there are still many teachers who are not willing to use technology in the learning process in their classrooms (Gilakjani et al., 2015). The process of integrating technology in classroom learning is generally still described at a moderate or low average level (Player-Koro, 2012). This indicates that teachers' perceptions or views regarding the use of technology in learning are still limited, which causes technology integration to be not optimal. In English language learning, assessment plays an important role in measuring learning achievement. Integration between technological processes and assessment processes will help teachers to more easily

make corrections and assessments of student learning outcomes and improve the quality of their assignments (Susilawati, et al. 2022)

3. Research Method

This research is a type of research and development (R&D) research carried out in the Computer Network Technology Department at SMK Negeri 1 Percut Sei Tuan. This research is included in mixed methods research with the assessment development model used, namely Gall and Borg (2003) model which consists of ten stages, namely: (1) needs analysis, (2) development plan, (3) initial product development, (4) initial test or one-on-one test, (5) initial product revision, (6) field test, (7) product revision, (8) field implementation test (operational test), (9) revising the final product, and (10) implementation in the field. This research focuses on the first step of all the steps in developing the Borg and Gall (2003) model above, namely needs analysis activities. This needs analysis activity was carried out with two steps of research activities, namely: (1) initial observation activities, searching for factual data on the implementation of the assessment model in English language learning which has been implemented in the Computer Technology Department at SMK Negeri 1 Percut Sei Tuan, (2) identification of development needs ASES digital technology-based assessment model in English language learning which has been implemented in the Computer Technology Department of SMK Negeri 1 Percut Sei Tuan.

4. Results and Discussion

4.1 Initial Observation Activities Search for Factual Data on Implementation of Assessment Models in English Language Learning at Vocational School

English language learning at vocational schools aims to ensure that students have the ability to master basic English knowledge and skills to support the achievement of skills program competencies. Learning English at the vocational school level aims to communicate both verbally and in writing at an intermediate level. In the end, it maximally supports the competency of the student's specific area of expertise. Students are expected to be able to communicate expertise and expertise products in the form of goods and services, to interested parties.

Carrying out a needs analysis on the development of the ASES digital-based assessment model in English language learning begins with carrying out the following activities: initial observation, search for factual data, implementation of the assessment model in English language learning which has been implemented in the Computer Technology Department at SMK Negeri 1 Percut Sei Tuan . Before carrying out initial observations, first determine (1) initial activities, (2) prepare a schedule and (3) determine the research stages. Determining the schedule and determining the research stages so that the activities carried out are structured and in accordance with the time scheduled at the beginning of the research preparation. After determining the schedule and determining the research stages, this research continued with literature study activities. The research activities continued with initial observation activities regarding searching for factual data regarding the actual implementation of the assessment model which had been carried out by English teachers in the Computer Network Technology Department at SMK Negeri 1 Percut Sei Tuan.

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The results of initial observations searching for factual data on the implementation of the assessment model that has been implemented in English language learning in the Network Computer Technology Department as a first step in developing the ASES digital technology-based assessment model in the Network Computer Technology Department were carried out on teachers who teach English in the Network Computer Technology Department show that:

(1) Based on the pre-assessment aspect carried out in the implementation of assessments carried out in English language learning in the Department of Computer Network Technology so far, it shows that the teachers have written down the completeness of the preparation of the assessment grid including: subject identity, indicators, subject matter, question item number, question weight, answer key, time allocation for completing the question items in the learning outcomes assessment they have carried out;
(2) Based on the completeness of the preparation of question items so far, all teachers in English indicate that the teachers have written the subject identity, indicators, course material, CPL, question item number, question weight, answer key, and time allocation for completing the items. question,
(3) Based on the assessment of student assignments and tests using digital assessment models so far, it shows that teachers have not used digital assessment models,
(4) Based on the English teachers who have provided information to students about the schedule for implementing learning outcomes assessments, it shows that the teachers have provided information to students about the schedule for implementing learning outcomes assessments.

Several notes were input from initial observation activities to search for factual data on the implementation of assessment models that have been implemented in English language learning in the Department of Computer Network Technology. Seen from the pre-assessment aspect, it can be concluded that digital assessment models need to be implemented in English language learning. This is important to do because digital technology has now become an inseparable part of our lives. Digital assessment in English learning saves teachers a lot of time in assessing student assignments and tests.

Based on the aspect of assessment activities in English language learning, the sub-aspects of assessment material that have been implemented so far in the Department of Computer Network Technology show that:

(1) The English teachers who have demonstrated competency in the assessment items that have been carried out so far, all English teachers in the Department of Computer Technology stated that they have demonstrated competency in the assessment items in implementing the learning outcome test assessments that they have carried out so far,
(2) The English teachers who have linked assessment items with knowledge relevant to digital developments in the implementation of learning outcomes assessments so far, all English teachers in the Computer Technology Department stated that they have linked assessment items with knowledge relevant to digital developments,
(3) The English teachers who include students in higher level thinking, all English teachers in the Computer Technology Department stated that they have included students in higher level thinking,

(4) The the assessment activities that measure students' abilities with the learning materials that have been provided, all English teachers in the Computer Technology Department stated that they measure students' abilities with the learning materials that have been provided.

Referring to initial observations searching for factual data on the implementation of the assessment model that has been implemented in English learning in the Department of Network Computer Technology, seen from the aspect of assessment activities, on average all teachers in the Department of Network Computer Technology have written assessment material related to the competency of the assessment items. , linking assessment items with knowledge relevant to digital development, and higher level thinking

Examining aspects of assessment activities, in the sub-aspect of the assessment strategy approach that has been implemented so far in English learning in the Computer Network Technology Department, it can be seen that on average English teachers have not used an assessment model that is able to detect similarities in students' answers and use an easy assessment model. provides scores automatically. Looking at the factual data on the implementation of the assessment model that has been implemented in English language learning in the Department of Computer Network Technology, it can be seen that it is necessary to develop an assessment strategy approach that is relevant to current developments.

The use of media in assessment activities is important. Looking at the aspect of assessment activities, in the sub-aspect of the use of assessment media that has been implemented so far in English language learning in the Computer Network Technology Department, it can be seen that new teachers use digital media effectively and efficiently in the assessment process.

Examining the factual data on the use of media in assessment activities that have been carried out in English learning in the Computer Network Technology Department, it can be seen that English teachers in the Computer Technology Department need to utilize digital assessment media. The use of digital assessment media is an urgent need for assessment to be implemented to take into account the knowledge, skills, dispositions and attitudes needed to equip students to keep up with the increasingly changing digital world. Assessment using digital technology must be used as an innovation in assessment practices in English language learning in the Computer Technology Department of SMK Negeri 1 Percut Sei Tuan.

Based on the results of initial observations searching for factual data on the implementation of the assessment model that has been implemented in English learning in the Department of Computer Network Technology in the aspect of assessment activities, especially in sub-assessments that trigger and maintain student involvement, teachers found that English in the Department of Computer Technology has grown active participation of students in completing the assessment of learning outcomes given to them, showing an open attitude towards student responses, fostering student enthusiasm, fostering student joy in completing answers, and fostering student enthusiasm in completing answers. Meanwhile, seen from the aspect of the readiness of teachers and students in using digital technology, in general it can be said to be ready. This can be seen from the fact that they have learning equipment that supports the internet, even all teachers and students have

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computers and laptops. Likewise, when they are at school, there are computers connected to the internet that they can use while they are at school.

4.2 Identification of the Development of the Digital Based Assessment ASES Model in English Language Learning in Vocational High Schools

Based on factual data on the implementation of the assessment model in English language learning which has been implemented in the Computer Network Engineering Department of SMK Negeri 1 Percut Sei Tuan, this research activity was continued by identifying the need for developing an assessment model based on ASES digital technology. This activity was carried out by conducting an FGD with teachers and students of SMK Negeri 1 Percut Sei Tuan. This FGD resulted in an agreement that in learning English students need to be equipped with digital skills by implementing the ASES digital-based assessment model. In such English learning activities, students carry out independent assessments on digital integration in learning. In implementing the curriculum used by English teachers in the Department of Computer Technology which integrates digital skills, teachers need to use the ASES digital learning assessment model, both through activities that will be carried out through pre-tests, quizzes, post-tests and other assessments so that teachers must be able to use digital resources in every lesson he does. English teachers must be digitally competent, work using digital thinking, and must be design thinkers in finding solutions.

With digitalization in English learning, including digitalization in using the ASES assessment model, English teachers' difficulties in assessing student answers can be overcome. So far, English learning in the Computer Technology Department has resulted in the completion of the assessment process being very slow and inefficient because teachers check the quality of assignments and tests manually, which can be done quickly and efficiently with the existence of a digital-based assessment model. With digital-based assessments in English learning, students' creativity and quality can increase through the results of their assignments and tests which have a positive impact on students.

5. Conclusion

Based on the research findings, it is concluded that during the initial observation activity focused on gathering factual data about the implementation of assessment models in English language learning at Vocational Schools, it became evident that integrating digital assessment models into English language instruction is necessary. This integration is essential due to the ubiquitous nature of digital technology in our lives. Digital assessment in English learning saves teachers a lot of time in assessing student assignments and tests. Examining aspects of assessment activities, in the sub-aspect of the assessment strategy approach that has been implemented so far in English learning in the Computer Network Technology Department, it can be seen that on average English teachers have not used an assessment model that is able to detect similarities in students' answers and use an easy assessment model. provides scores automatically. The use of ASES digital-based assessment media is an urgent need for assessment to be implemented to take into account the knowledge, skills, dispositions and attitudes needed to equip students to keep up with the increasingly changing digital world. Assessment using ASES digital technology must be used as an innovation in assessment practices in English language learning in the Computer Technology Department of SMK Negeri 1 Percut Sei Tuan.

Identification of the development of the ASES digital-based assessment model in English language learning at Vocational High Schools was carried out by conducting FGDs with teachers and students of SMK Negeri 1 Percut Sei Tuan. This FGD resulted in an agreement that in learning English students need to be equipped with digital skills. In implementing the curriculum used by English teachers in the Computer Technology Department which integrates digital skills, teachers need to use the ASES digital learning assessment model, both through activities that will be carried out through pre-tests, quizzes, post-tests and other assessments so that teachers must be able to use resources of digital power in every learning activity.

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