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Analysis of Needs for the Development of Integrated Interactive Learning Media *Soft Skills* Ready for Work Based in Vocational High Schools

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Abstract

Vocational education through Vocational High Schools (SMK) in Indonesia plays a strategic role in preparing a skilled workforce that is ready to compete in the industrial world. This research aims to analyze the need for the development of Interactive Learning Media (MPI) that is integrated with web-based job-ready soft skills for vocational school students. This type of research is a Mixed Methods research that aims to produce descriptive data that combines qualitative and quantitative. This research was carried out at SMKN 4 Buru, SMKN 7 Buru, SMK Nasional Makassar and SMK Telkom Makassar. The research sample consisted of 90 students who were selected in total sampling from 2nd grade students of SMKN 4 Buru, SMKN 7 Buru, Makassar National Vocational School and Telkom Makassar Vocational School. This study analyzes the need for soft skill development in vocational school students to face the world of work. The observation results showed that most students (93.5%) considered soft skills very important, especially Work Ethics (97%), Teamwork (93%), and Communication Skills (92%). Soft skill learning in vocational schools is still limited to theory and does not involve field practice and adequate evaluation. Learning technology is recognized to improve soft skills (89.2%), although a small percentage of students feel less effective (10.8%). Students prefer interactive and experiential learning (77%), but

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face barriers to accessing technology (26.4%). A web-based interactive learning model that integrates job-ready soft skills can address this gap by increasing student engagement, providing flexibility, and supporting collaboration with the industry.

Keywords: Needs Analysis, Interactive Learning Media, Job Readiness, and Vocational High School

INTRODUCTION

Education is a major factor in preparing the young generation to face global challenges, especially in an increasingly competitive world of work (Darwanto & Nova, 2020). In Indonesia, vocational education through vocational high schools (SMK) plays an important role in preparing a ready-to-use skilled workforce. Vocational schools provide education that focuses on developing technical skills that are in accordance with the needs of the job market (Jaerman et al., 2019). However, in reality, vocational education that has been implemented has a very striking disparity between the abilities expected by the world of work and the graduates who are able to produce in the world of education, especially vocational education. In the Indonesian National Education System, vocational education is a type of education that aims to prepare students to be ready to work in a certain field (Fitrian & Sugiyono, 2020). Vocational education equips students with the skills, knowledge, and attitudes needed to enter the world of work (Ramdani et al., 2019).

Vocational schools have organized education that includes hard skills and soft skills simultaneously (Setiyawami et al., 2020). However, the reality in the field is that the implementation is still not optimal. For example, through group learning and discussions, students are taught to increase cooperation and a sense of togetherness. However, the portion of soft skills education is relatively small when compared to individual exact learning (Sutanto et al., 2021). The view of education, especially vocational schools, towards its highly competent graduates tends to focus on high report card scores and good practice skills. This is different from the view of the industrial world, which states that graduates with high competence are those who have good technical abilities and attitudes (Jainudin et al., 2015). In addition, a course of study is considered good by the school if its graduates can get a job immediately after graduation. However, the industrial world assesses the opposite, namely how resilient a graduate is in showing commitment to the first job he has received (Yoto, 2019).

A person's success is not solely determined by technical knowledge and abilities (hard skills), but more by the ability to manage oneself and others (soft skills) (Darwanto & Nova, 2020).

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This study reveals that success is only determined by about 20% by hard skills and the remaining 80% by soft skills (Imron & Triyanto, 2020). It is appropriate for every education world today to prepare its students to compete in the labor market with the provision of soft skills (Putra, 2021). Therefore, soft skills are important non-technical skills for vocational school graduates (Pusriawan & Soenarto, 2019).

Vocational schools need to develop their learning methods to prepare their graduates to meet the complete competency needs expected by the world of work/industry, which includes aspects such as: honesty, work ethic, responsibility, discipline, application of occupational safety principles, initiative and creativity (Dardiri, 2016). These aspects of soft skills or work character have a very important role in determining the success of a business or industry as well as the success of the employees themselves (Sreehari, 2021). Global awareness skills, independence, the ability to cooperate globally, computer mastery, technological literacy, intellectual abilities that emphasize critical thinking and problem-solving, the ability to innovate and improve, as well as flexible and adaptive knowledge and skills, are also indispensable (Afandi et al., 2019).

Soft skills are needed in the business/industrial world (Poláková et al., 2023). Soft skills play a role as a complement to the hard skills that have been obtained in college, because with qualified soft skills, a person will be able to adapt to changes in the work environment, be able to communicate well, be able to work in a team, and be able to solve problems effectively (Labzina et al., 2019). One of the soft skills that is important for vocational school students is self-efficacy. Self-efficacy is a person's belief in their ability to carry out certain tasks or actions to achieve desired results (Fitriyana et al., 2021).

With the rapid development of technology, especially in the field of digital and communication, there is now an opportunity to utilize digital-based technology in developing soft skills for vocational school students. Technology can be an effective tool to improve students' ability to communicate, work in teams, and solve problems (Ismail & Subagyo, 2023). The use of online learning platforms, mobile applications, and virtual simulations has been proven to have a positive impact on learning interpersonal skills and *soft skills*. Therefore, it is important for vocational schools to integrate digital technology into the curriculum and learning process (Adila & Rodiyah, 2024).

The use of digital technology in vocational education has a significant impact in introducing various scenarios to vocational school students, without the need for direct interaction with industry (Setiawaty & Tjahjono, 2019). By using game-based simulations, online discussion forums, and online collaboration tools, students can learn to work in teams, manage projects, and

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practice effective communication (Maratou et al., 2014). In addition, the use of technology allows students to learn more flexibly and independently, thus providing a more realistic and practical experience.

Based on the conditions that occur and the various problems that have been described as well as previous researches, this study tries to research the analysis of the needs for the development of interactive learning media integrated with soft skills for students' job readiness in vocational schools**.** This research can be a reference in the development of interactive learning media that is more relevant to the needs of the world of work.

METOD

Research Design

This type of research is a mixed research that aims to produce descriptive data that combines qualitative (interviews and observations) and quantitative (questionnaires). The purpose of this study is to find out the conditions that exist in vocational education, especially in interactive learning media integrated with *soft skills* ready for work in vocational school students. The data needed in this study are (1) Analysis of *work-ready soft skill* learning; (2) Analysis of User Response characteristics; and (3) Analysis of the required learning media. This research uses qualitative and quantitative approaches where the researcher acts as the crucial instrument or main inquisition.

Sample and Population

This research was conducted at SMKN 4 Buru, SMKN 7 Buru, SMK Nasional Makassar and SMK Telkom Makassar. The research sample consisted of 90 students selected by total sampling from class 2 students of SMKN 4 Buru, SMKN 7 Buru, SMK Nasional Makassar and SMK Telkom Makassar..

Data Collection Framework

Qualitative data was obtained through in-depth interviews and direct observation of learning activities and student behavior. Quantitative data was obtained through the distribution of questionnaires to grade 2 students in the four vocational schools as a sample. Data analysis uses descriptive analysis. The results of the analysis describe the level of needs, perceptions, and readiness of students for learning media and soft skills needed.

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RESULTS

Needs analysis is the first step in this study. At this stage, a needs analysis is carried out using initial observation and documentation methods. The scope of the initial observation includes the analysis of work-ready soft skill learning , the analysis of user response characteristics, and the analysis of the required learning media.

Analisis Pelaksanaan Pembelajaran Soft Skills

Soft skill *learning* is a process that aims to develop non-technical skills needed to succeed in the world of work, such as communication skills, teamwork, problem-solving, time management, and work ethics. However, currently many vocational schools (SMK) do not pay enough attention to the development of *soft skills* in their curriculum, which causes students to be less prepared to face the demands of the industrial world. The results of observations on soft skills learning can be seen in Table 1.

Table 1. Observation Results of Soft Skills Learning

Indicator	Description
Identify *soft skills* needed by the Industrial World	Today's industry increasingly demands employees not only to have qualified technical skills, but also good *soft skills*. Some of the *soft skills* needed in the industrial world include: (1) Communication Skills, (2) Leadership, (3) Teamwork, (4) Problem-Solving, (5) Time Management, (6) Work Ethics.
Evaluation of the Learning Process of Existing Soft Skills	Based on initial observations, *soft skill learning* in vocational schools tends to be limited to theoretical approaches and the lack of methods that facilitate the application of skills in real situations. Some of the findings from this evaluation include: (1) Less Interactive Teaching Methods, Many vocational schools still use the lecture approach in teaching *soft skills*, so that students' active involvement in learning is minimal; (2) Lack of Field Practice, Students are rarely given the opportunity to practice their *soft skills* in a real context; (3) Lack of Feedback, The *soft skills*

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	learning process is often not equipped with proper evaluation and constructive feedback.
Influence of the Curriculum	The vocational education curriculum in many vocational schools has not fully integrated the teaching of *soft skills* effectively. Some findings related to the curriculum include: (1) Lack of integration *of soft skills* in the curriculum, Many vocational school curricula are more focused on teaching technical skills. *Soft skills* are often considered "extra" and given little attention; (2) Time Constraints, Subject matter that is dense and focuses on technical competence often overrides the teaching of *soft skills*, which should be part of cross-disciplinary learning; (3) Challenges in Integrating *soft skills*, One of the big challenges is the limitation of teaching materials or modules for *soft skills*.

Analysis of User Response Characteristics

In the analysis of user response characteristics, including indicators of identifying students' needs and preferences; Technology and Learning Interests; Motivation and Learning Style; and Accessibility and Technology Constraints. The following are the results of observation through a questionnaire instrument using a likert scale. The results of the characteristicistic analysis of user responses were obtained information in Table 2.

Table 2. Analysis of User Response Characteristics

Indicator	Key Points	Percentage (%)
Identify Students' Needs and Preferences	*Soft skills* are essential	93.5%
	Important work ethic	97%
	Work in an important team	93%
	Important communication	92%
	Leadership matters	92%
	Time management matters	91%

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Technology and Learning Interests	Technology-based learning improves *soft skills*	89.2%
	Ineffective technology-based learning	10.8%
Motivation and Learning Style of Students	Prefer interactive and experiential learning	77%
	Prefer theory-based learning and formal presentations	23%
Accessibility and Technology Constraints	Access to technology is sufficient	73.6%
	Difficulties in accessing technology	26.4%

Based on the data obtained, most students (93.5%) consider that *soft skills* are very important in preparing them for the world of work. The skills that are considered most important are work ethic (97%), working in a team (93%), followed by communication and leadership (92%), and time management (91%). This shows that most students are aware of the importance of *soft skills*.

The teaching process using technology among students showed a fairly positive response. Most learners (89.2%) consider that technology-based learning (e.g., online learning using platforms such as Google Classroom) can improve their soft skills. However, around (10.8%) students feel that technology-based learning is not effective in helping them develop soft skills to the maximum. Some students stated that distance learning is sometimes difficult to implement practically, especially when the technology used does not support active engagement in learning.

The majority of learners (77%) stated that they prefer to learn in a more interactive and experiential way, such as group discussions, role-playing, or simulations of the world of work. Learning that involves direct interaction with fellow students or teachers is considered more effective in developing their soft skills. Meanwhile, about (23%) of learners prefer learning that is more theory-based and formal presentation. This shows that students' learning styles vary, but a large tendency is to show that they are more interested in more practical and applicative learning.

Limited access to technology is the main obstacle in learning for some students. Although (73.6%) learners revealed that they had sufficient access to technology-based learning, (26.4%) others found it difficult, especially in accessing stable internet and adequate devices. Students from areas with limited internet access have greater difficulty in participating in technology-based online learning. This shows the need to improve technology infrastructure and internet access in certain areas to support effective learning.

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Analysis of Required Learning Media

Various problem analyses that have been previously presented are the basis for the researcher's thinking in developing Interactive Learning Media (MPI) integrated with work-ready soft skills for vocational school students. The learning media is believed to be able to: (1) Overcome the soft skills gap, Based on the first stage of analysis, many vocational school students have not received enough soft skill development in their curriculum; (2) Increasing Student Engagement and Motivation, By using interactive web-based learning media, students can learn in a more engaging way and in accordance with their learning style; (3) Flexibility in Learning, The use of web-based platforms allows students to access materials anytime and anywhere, providing flexibility in the learning process; (4) Provision of Interactive Features that Support Collaboration and Evaluation, Features such as discussion forums, chats to communicate, and competency-based assessment systems can help students to be more active in sharing experiences, as well as monitoring their progress in mastering soft skills; and (5) Collaboration with the Industrial World (IDUKA), This learning media is also expected to open opportunities to increase collaboration between schools and industry, in order to identify and develop soft skills that are needed by the world of work. This collaboration can enrich the material taught in MPI and is more in line with industry demands.

DISCUSSION

Based on the findings of this study, the follow-up that needs to be done is the development of interactive learning media that is specifically designed to integrate the strengthening of work-ready soft skills in vocational school students. This media must be contextual, applicative, and interactive, and contain elements of soft skills such as work ethics, teamwork, communication, leadership, and time management (Situmorang et al., 2020)Media design should be complemented by simulations of the world of work, case studies, and project-based collaborative tasks so that students not only understand concepts, but also be able to apply them in a real context (Prabowo et al., 2021). Given the limited access of some students, learning media also needs to be developed in a format that can be accessed offline or mobile-friendly.

Furthermore, teachers as learning facilitators need to be provided with continuous training in designing and implementing technology-based learning that supports the strengthening of soft skills (Asfiana et al., 2024). The training includes skills in using digital platforms creatively, organizing collaborative activities, and evaluating soft skills through authentic assessments (Subroto et al., 2023). In addition, it is necessary to make adjustments to the vocational curriculum

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so that it explicitly includes learning outcomes that are oriented towards soft skills. This can be done by inserting social skills indicators in learning planning and making them part of the evaluation of student learning outcomes.

Another follow-up that is no less important is the improvement of technological infrastructure and internet access for students, especially those in areas with limited connectivity (Wiyanarti & Holilah, 2020). The government and schools need to work together to provide adequate learning devices, Wi-Fi access in school environments, and data package subsidies to support online learning. In addition, collaboration with the business and industry (DUDI) needs to be strengthened to provide a learning experience that resembles the real world of work (Trinova et al., 2022). This form of collaboration can be in the form of internship programs, workshops, or work process simulations that directly involve learners and require them to apply soft skills in relevant situations. Finally, it is recommended to conduct further research to develop and test the effectiveness of the interactive learning media developed, as well as assess its impact on improving students' soft skills longitudinally.

On the other hand, the development of Interactive Learning Media that is integrated with job-ready soft skills is a strategic step in answering the challenges of vocational education in the digital era. As a follow-up to this development, it is necessary to take several concrete steps so that the developed media does not only stop at the design and testing aspects, but can also be implemented widely and sustainably. Interactive learning media aims to support interactive, effective and efficient learning (Japar et al., 2020).

One of the efforts that can be made is to integrate soft skills into every learning at all levels of formal education, considering that a person's success is greatly influenced by soft skills (Darwanto & Nova, 2020)). Soft skills include various skills such as communication, emotions, language, grouping, ethics, morals, and the ability to adapt quickly (Ariwibowo et al., 2021; Darwanto & Nova, 2020). This step will ensure that every student, from an early age, is accustomed and trained in applying soft skills in various situations, both inside and outside the classroom.

In addition, there is a need for intensive and continuous training for teachers and educators on how to integrate soft skills into teaching materials. This training should include interactive and fun learning methods, as well as how to evaluate the development of students' soft skills effectively. The development of interactive learning media is one of the innovative solutions in improving teacher competence and learning quality, especially in the use of information technology (Minardi & Akbar, 2020).

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CONCLUSION

This research shows that the development of Interactive Learning Media that is integrated with work-ready soft skills is very important to increase the readiness of vocational school students to face the world of work. Needs analysis shows that soft skills learning is currently limited in vocational schools, with many schools focusing more on technical skills and a lack of interactive methods and in-depth field practice. In addition, although digital technology has great potential to support the development of soft skills, several obstacles such as limited access to technology and lack of supporting devices are a challenge.

The results of the study also revealed that most students are aware of the importance of soft skills in the world of work and are more interested in learning methods that are interactive, experience-based, and flexibly accessible. Therefore, the development of interactive learning media that provides interactive and collaborative features can be an effective solution to improve students' soft skill competencies , which not only supports the technical aspect, but also prepares them to work in a competitive industrial world. By using interactive learning media, students can learn independently, develop interpersonal skills, and collaborate with the industrial world to ensure the relevance of learning materials to the needs of the job market.

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