



What is the Form of Collaboration between SMK and Construction Services in Providing Guarantees for the Relevance of Student Work Skills?

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ABSTRACT

The purpose of this study was to find a collaborative form of skill test for SMK students in concrete structure expertise that meets the needs of construction services. This research was designed using a qualitative descriptive research approach. Qualitative data was obtained through limited discussions with SMK teachers and construction service providers. Respondents to this study were 15 productive program vocational teachers from 3 vocational schools and construction service elements from 5 construction service companies in North Sulawesi, Indonesia. The results of the study found that according to the responses of vocational teachers and construction service providers, a collaboration model was designed to test student work skills, which indicated that the world of the construction service industry needed to be involved in curriculum development, industrial practical learning processes, and implementation of student work skills achievement assessments. The format and mechanism for assessing student work skills must involve the industrial world to ensure the relevance of indicators and or student performance criteria.

Keywords: Vocational education, Construction services, Skills test collaboration model of SMK students.

1. INTRODUCTION

Vocational high schools (SMK) have an important and strategic role in preparing their students to become graduates who have work competence. In Indonesia, SMK is placed at the secondary education level. Vocational education or SMK has different characteristics when compared to other secondary education, such as public high schools. One thing that distinguishes SMK from other types of public schools is that SMK students are prepared to become graduates who can work with their work competencies. Another advantage is that SMK graduates have a ready-to-work attitude with the expertise of their choice. Therefore, vocational education becomes a bridge between education and the world of work. Thus, the need for manpower in each job market will be fulfilled with the existence of SMK graduates who have work competencies that are ready to work.

The implementation of SMK in Indonesia has become one of the educational units that produces ready-to-use workforce. However, data for 2022 shows that the open

unemployment rate by education level is dominated by SMK graduates, namely 10.38% of the total unemployed and this figure is the highest compared to other graduates [1,2]. So, with these data it shows that SMK graduates are still a contributor to the number of unemployed at productive age, because seen from the level of education, SMK graduates are still the highest among other levels of education [2]. Data for 2020 shows that the construction work sector is one of the sectors that has a significant contribution to the national Gross Domestic Product (GDP) of 10.24%. Where the number of construction workers (TKK) is still dominated by TKK with vocational education and below, namely 70% [10]. This is an important task for SMK as a school whose main goal is to produce human resources who have the ability to work, so SMK must always improve the quality and relevance of graduate competencies to meet the needs of the business world and the industrial world. Based on these data, it can be said that there is still a mismatch of competencies possessed by SMK graduates with what is needed by employment, such as by the implementation of construction services.

SMK learning is oriented towards achieving a competency-based curriculum. After students are declared to have completed their learning process, students are required to take a skill competency exam to gain recognition through certification, and it is carried out by an external party (such as from a construction service provider). The construction services party plays the role of assessor and verifier in the implementation of the skills test. Before students take the skills exam, the school considers the student competent according to the demands of the curriculum, and the construction services assess the student's skill achievements in a test format made by the school. Therefore, this form of implementation of external exams has an impact on non-compliance with the needs of the construction services sector. This is often the cause of many SMK graduates not being absorbed by construction services. In fact, SMK students get basic vocational theory and practicum at the school level, while skills are carried out in construction services with the principle of learning by doing (such as industrial work practice programs or dual system education patterns), so that this form of dual system education can guarantee conformity with service needs. construction. But the implementation of skill competency programs in SMKs, their relevance to employment needs tends to be low [11]. So that SMK graduates are still considered not meeting the needs of construction services.

Many SMK graduates in several regions in Indonesia are still not absorbed because the competency qualifications of vocational graduates are still many that are not in accordance with the types and qualifications needed for employment. As a result, Vocational High Schools, which are supposed to alleviate the problem of unemployment, instead become contributors to unemployment. Vocational High School students in the Construction and Property Technology expertise program are expected to be able to fill positions in jobs as construction service skilled workers for builders/operators/foremen/executors. The implementation of skills competencies in Vocational Schools has not been fully based on an analysis of the needs of fulfilling employment, such as several skills competencies needed in construction jobs, have not been presented in the competency documents issued by the school.

The discrepancy between the needs of the world of work and the quality of SMK graduates is one of the factors driving the low absorption of SMK graduates into the world of work [1,8]. To realize an ideal vocational student skill profile, it is necessary to know the skills that are relevant to the needs of construction services. Thus, in order to be able to guarantee the suitability of students' skills with the needs of construction services, this study aims to find a description of the competence of students' work skills provided by SMK and analyze the design of collaboration forms of skills test for SMK students with

concrete structure skills that are in accordance with the needs of construction services.

1.1. SMK Student Skills Competency

Vocational high schools equip students with technical competency skills (skills) to be able to compete in the world of work. Vocational education must be relevant to the real needs of workers [13]. Vocational education directs students to enter the workforce. The OECD states that graduates of vocational programs need special skills in addition to general skills to lead them to their work careers, including the ability to adapt quickly to changing workplace needs [15]. Skills cannot be learned in the context of formal schools, but only in authentic work settings [12]. Vocational education will be efficient if provided with a learning environment that is appropriate to the environment in which they will work later [17].

Skills are defined as students' abilities to think and act effectively and creatively in abstract and concrete fields as the development of what they learn in school independently. Student skills are directed at the ability to observe carefully, imitate activities, adapt (imitate by making adjustments), organize or shape, work according to procedures, work conscientiously, work naturally [9]. competencies directed at the development or mastery of certain skills. The importance of work skills is the basis for the success of the workforce in carrying out their work assignments, because construction projects will be successful if carried out by skilled and trained workers [3]. Students will succeed with their skills in real work [23]. The skill aspect refers to the ability to do work in various conditions and possibilities [21]. The skill aspect is one of the standards needed to show someone's ability [14]. Thus, it can be stated that every skilled workforce will always be successful in work such as when carrying out construction work.

The work skills provided to students in schools are still considered not appropriate or not relevant to the needs of the construction service industry. Some of the skill competencies provided through subjects at school, in fact, have not fully accommodated all the productive competency needs of construction services, because vocational school teachers must have a vocational material specialization [4, 5]. There are several skills needed in the construction work field, but have not been presented in the competency documents issued by the school [20], including: calculating construction material requirements, carrying out stone installation work, making bestek drawings, making shopdrawing/asbuilddrawing drawings, and make monitoring reports. This description becomes an empirical fact that the teaching materials packaged in Vocational High Schools through the process of providing skill competencies to students, are not developed and are based on developments in the need for construction services.

1.2. Need for Construction Services

The development of the construction services business in North Sulawesi continues to increase along with the construction of infrastructure facilities in various fields, supported by the existence of development programs in newly expanded areas. An actual fact that occurred in North Sulawesi in the implementation of construction services requires a skilled workforce, but more are still imported from outside North Sulawesi [16, 26]. The need for labor in construction projects in North Sulawesi continues to increase and is an important factor in supporting the successful implementation of the construction business [22]. Thus the need for vocational graduates in North Sulawesi is important and urgent for vocational education in producing workers who have competencies relevant to the needs of the construction business, to meet the needs of the North Sulawesi region and are not brought in from outside the region.

2. RESEARCH METHODS

2.1. Research design

This study was designed using a qualitative descriptive research approach to design a collaboration model for assessing vocational students' skills tests. The qualitative data was obtained through limited discussions with SMK teachers and construction service actors which were carried out separately. In the discussion, it is hoped that a response will be received from productive program teachers at SMKs with construction and property technology expertise and from construction service actors.

2.2. Research respondents

This study involved teachers in productive SMK programs in the field of construction technology and property (TKP) expertise as respondents. The recruitment of vocational productive program teachers as respondents is intended to obtain data on the description of the implementation of student work skills competency tests conducted at schools. The number of teachers involved in this study were 15 teachers who were representatives of 3 SMKs in North Sulawesi Province, Indonesia. Furthermore, respondents were taken from construction service elements who were representatives of 5 construction service companies domiciled and carrying out construction work activities in North Sulawesi Province and its surroundings. Respondents from construction service actors are intended to get an overview of involvement as external parties in work skills competency test activities.

2.3. Data Collection

The research data is in the form of responses from research respondents about the description of the pattern and mechanism for implementing the skills test of SMK

students. The data was obtained through discussions with the respondents of this study. The discussion with productive program teachers was intended to explore the pattern of implementing student work skills competency tests as internal parties. Discussions were also carried out with construction service actors to get an overview of their patterns of involvement in skills competency test activities for SMK students as external parties.

2.4. Research Instruments

Data describing the pattern and mechanism for implementing the SMK students' skill tests were obtained through responses to survey instruments with productive program teachers at SMKs and also with construction service actors. Furthermore, to further explore the responses of the respondents, a limited discussion was held. The survey instrument is limited to pattern indicators and mechanisms for implementing student skills tests, namely from the preparation, implementation and evaluation stages to the process of awarding certificates to SMK students. The survey instruments used are also adjusted to the Indonesian National Work Competency Standards (SKKNI) and the Indonesian National Qualifications Framework (KKNI) [19].

2.5. Research Data Analysis

The research data was analyzed by selecting and sorting out each response from the respondents that were relevant to each existing indicator regarding the description of the pattern and mechanism for implementing the skills test for SMK students. The results of this analysis are then used as the basis for designing a collaboration model for assessing the competence of vocational students' skills based on the need for construction services.

3. RESULTS AND DISCUSSION

The results of the research through limited discussion activities with teacher respondents and construction service actors (SMK and construction services), it was found that some work skills competencies provided by the school to students were relatively in accordance with what was needed by construction services. Some of these appropriate skill competencies, such as the type of concrete structure work. However, this suitability has not maximally accommodated the various dynamics of construction service work needs. Because of several work indicators, the only work indicators that are most suitable are concrete casting and installation of concrete reinforcement, apart from that they are still not suitable. The suitability of some of these work indicators is because they are supported by industrial work practice activities carried out in construction service companies. So that students are accustomed to and become more skilled at carrying out these work indicators. Incompatibility of some student skills with the needs of

construction services, one of the obstacles is the lack of involvement of construction services in the curriculum development process and/or the process of assessing student performance in demonstrating their skills.

During discussions with respondents, it was found that the involvement of external parties was only in implementation and evaluation, but internal parties were not involved in the preparatory stage. This means that the formulation of the format and mechanism for assessing work skills does not involve the industrial world, so it cannot guarantee the relevance of indicators and or criteria for student skills performance. Furthermore, in the limited discussion activities, various suggestions that emerged were the need for synergy between the school and construction services in the process of assessing student performance. This means that the competency-based learning process is carried out in schools, but later when the assessment of student skills competency achievement tests will be carried out it is necessary to involve construction services. The involvement of the industrial world, such as construction service providers in the implementation of SMK can increase the independence and readiness of students to enter the world of work [18]. The involvement of the industrial world needs to be carried out to ensure the relevance of tasks and learning content [7] in the SMK curriculum. The relevance of the vocational education curriculum must always be supported by the application of work practices to provide learning experiences for students [6]. The collaborative learning pattern was like industrial work practices, students are trained in real learning on the job, carried out in construction service companies. Collaboration between vocational schools and companies will contribute to vocational relevance and student motivation and learning outcomes [7]. Therefore, the learning experienced by students in the workplace through real learning in the industry can contribute to the competency achievements of students' work skills that are relevant to the needs of construction services.

The results of this study, adjusted for the positive responses from the two respondents, indicate that a form of collaboration that can guarantee the relevance of vocational education is designing a collaboration model for testing student work skills (see figure 1). The model in Figure 1 shows that the assessment of the competency skills of SMK students needs to involve construction service actors by taking into account work standards (SKKNI) and work qualifications (KKNI). The model in Figure 1 is a design model for assessing the competence of vocational students' skills based on the needs of construction services. This model is the result of an analysis of limited discussions conducted involving productive program teachers at SMKs with TKP expertise, and also separately involving construction service actors. An assessment model like Figure 1 shows that the involvement of the construction service industry needs to be involved in the preparation of curriculum

content, then in the learning process such as industrial practice, then in the implementation of the assessment of student skills achievements. The format and mechanism for assessing student skills must involve the industrial world so that the indicators and or criteria for student performance meet the needs of the industrial world. This form of collaboration needs to be supported by a formal agreement, as mentioned by Hiim [7] that the principle of a formal agreement on collaboration needs to be supported by regular dialogue about assignments and curriculum content, about student placement in companies, and the exchange of experiences and competencies between teachers and instructors. So, the application of these principles contributes to vocational relevance and motivation and student learning outcomes.

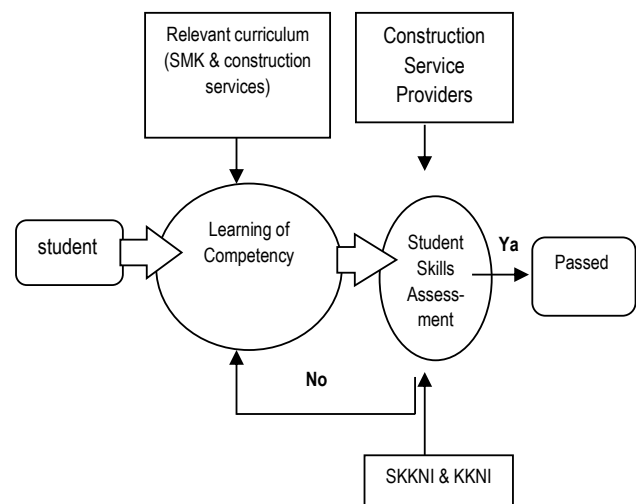


Figure 1 Design of the collaboration model.

This study also revealed that students' skills in carrying out concrete structural work are important to be mastered by students as a basis for carrying out work assignments according to competency skills. Because with good skills, students become competent and experts in their field, as mentioned by Winterton, et al [24] that skills can lead to performance with accuracy and speed at work. Also mentioned by Winch [25] that the skills learned make workers able to act in a certain way in relation to tasks. Thus skills are important so that students as prospective skilled workers become competent and experts according to their field of expertise.

The importance of the skill aspect for skilled workers or construction workers, so that students who are prepared to become skilled workers and or implementing staff have equipped themselves with skills according to their area of expertise. The importance of skills for a workforce is the basis for the success of the workforce in carrying out work tasks, as stated by Elfaki and Alatawi [3] that a construction project will be successful if it is carried out by a skilled and trained workforce. Because the skill aspect is an aspect that is obtained or obtained

by the workforce, in this case, students, such as the working atmosphere in the workplace. This is in line with Willert, et al [23] that students will succeed with real skills such as in the workplace. Thus, it can be stated that every skilled workforce will always be successful in work such as in carrying out construction projects.

4. CONCLUSION

Based on the results of the research analysis through the responses given by vocational teacher respondents and construction service providers, a collaboration model was designed to test student work skills, which shows that the world of the construction service industry needs to be involved from curriculum preparation, industrial practice learning processes, and implementation of student work skills achievement assessments. The format and mechanism for assessing student work skills must involve the industrial world to ensure the relevance of indicators and or student performance criteria.

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