Revitalizing the role of teachers in practice learning to increase vocational students readiness

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Abstract. Vocational teachers are the spearhead in practical learning should be responsive, anticipatory and proactive to the needs of current and future vocational graduates. 21st-century skills bring the consequences of teacher's role in practical learning not only as facilitator, motivator, administrator. In practice learning, Teachers should act as supervisors who are responsible for product, quality, price, method, morale, practice, safety, and environment. In addition to hard skills, important aspects of soft skills needed in the world of work including discipline, responsibility, mental work, adaptability, and cooperation are important in learning in Vocational Schools. Revitalization of Vocational Teacher's role in practical learning in line with future work qualification demands must be done immediately.

1. Introduction

The success of Vocational High School (VHS’s) in equipping the readiness of students to meet the demands of the work world, depends on the ability of teachers in developing the learning process. Teachers as those at the instructional level face-to-face with learners in the instructional process must acquire pedagogical and professional autonomy to perform tasks as educators. In managing the teaching and learning process, teachers are required to master about what to teach and how to teach. What to teach relates to the ability of teachers in mastering the material to be taught, while how to teach related to the strategy how to teach it. The success of Vocational High School in equipping the readiness of students to meet the demands of the work world, depends on the ability of teachers in developing the learning process. Teachers as those at the instructional level face-to-face with learners in the instructional process must acquire pedagogical and professional autonomy to perform tasks as educators. In managing the teaching and learning process, teachers are required to master about what to teach and how to teach. What to teach relates to the ability of teachers in mastering the material to be taught, while how to teach related to the strategy how to teach it.

VHS’s as a subsystem in the national education system is designed to bridge someone to the world of work and aims to prepare graduates to be productive individuals, able to work as a workforce, and have the readiness to face work competition [1]. However, data from the Central Bureau of Statistics show data in 2017 that unemployment increased by 10,000, while TPT fell by 0.11 points [2]. Judging from the level of education, Vocational High School (VHS) is highest among other education levels, which amounted to 10.40 percent.
VHS’s implementation as one of the solutions in reducing the number of educated people has not been optimally implemented.

Competition of industry and trade, in general, will always affect the price factor, quality, design, delivery time, service, and service. It is determined by the quality of human resources of organizational existence [3]. Good work readiness is the dominant element in determining the performance level of vocational graduate worker [4].

Readiness is the overall condition of a person who makes it ready to respond in a particular way to a situation [5]. Readiness for something will be formed if there has been a mix of development, social, educational, and emotional. In general, a person's readiness to enter the world of work involves three factors: physiological factors concerning maturity of age, physical condition, and organs, experience factors involving learning or work experiences involving knowledge and technical skills or hard skills, and non-technical skills that involve the ability of soft skills.

The purpose of this research is to design the model of teacher role development in practical learning to equip VHS’s students’ readiness in accordance with the demands of the working world. Assuming that VHS’s graduates is prepared to work within their areas of expertise, and the role of teachers in practical learning influences students’ readiness.

2. Literature review

2.1 Vocational High School
Specifically according to the National Education System Act (UUSPN) no. 20 the year 2003, the purpose of vocational education is to prepare learners primarily to be able to work in certain fields and also ready to proceed to higher education level. More specifically described in Government Regulation (PP) No. 19 of 2005 on National Education Standards. "Vocational secondary education is education at the vocational secondary education level prioritizing the development of students' abilities for certain types of work."

2.2 Readiness of Vocational Graduates Work
Job readiness for VHS's students is very important because after graduating school will immediately face a higher level of living that is working. Readiness is a willingness to respond or react from within a person that is a point of maturity to accept and practice certain behaviours [5]. Specific work readiness according to Law no. 13 of 2003 on Manpower is, “the ability of each individual work that includes aspects of knowledge, skills, and works attitude in accordance with established standards”.

Figure 1. Unemployment rate is open by 2017 by education level (BPS No. 103/11/Th.XX, 06 November 2017)
Work preparedness factors are described as follows: (1) Maturity: The level of maturity of an individual is much related to the age and physical condition of a person. The age limit of the workforce in Indonesia is 15 years, then the vocational students that generally have entered the age between 16-19 years can be categorized as having the readiness to work, both physically and mentally. (2) Required experience: a person's ability is determined by the qualifications they possess, including education, experience and personal traits [6] (Manullang & Marihot, 2006: 188). Through education, one will have broad knowledge, more advanced insights, and experience in doing things. Matching mental and emotional state: is a state that includes a critical attitude, has logical, objective, adult and controlled emotions.

2.3 Practical Learning at VHS’s
The learning of vocational practice in the laboratory or workshop is characteristic of the learning process at VHS's. Practice is the best way of learning, techniques and processes to be explained, given instructions on how to do it and given the opportunity to do it alone [7]. Practical activity is the implementation of work in accordance with the job sheets provided by the teacher to know the mastery of students to behaviour change as a whole, covering all areas of behaviour.

The cognitive domain contains behaviours that emphasize the intellectual aspects, such as knowledge, understanding, and thinking skills consisting of knowledge, comprehension, application, analysis, synthesis, and evaluation [8].

Affective spheres relate to emotional aspects, such as; feelings, interests, attitudes, obedience to morals and so on. The psychomotor aspect deals with skill aspects involving the functioning of the nervous system and muscles (neuromuscular system) and psychic function. This sphere consists of readiness, imitation, habitual, adaptation, and creating (origination). The learning of vocational practice in the laboratory or workshop is characteristic of the learning process at VHS's.

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2.4 The Role of Teachers in Practice learning
The role of teachers developed in practical learning is as a supervisor who proactively monitors, provides direction, and guidance based on the power of positive, effective, efficient, and productive communication language.

Teachers as professional supervisors should be able to provide the best working strategy and avoid all ineffective work behaviour in an effort to prevent all negative excesses on the spirit and motivation of work. As a professional supervisor, teachers provide clear information and determine all the most important information to be utilized by students during the work process. Teachers mentally train all their students in an effort to reduce anxiety and increase commitment together to work effectively, efficiently, creatively, productively, and synergize among all of them. A professional supervisor will always respect and appreciate all the hard work of his staff, so it will get a positive feedback. This reciprocal relationship is a positive communication in making the learning process more effective and efficient.
3. Design of Revitalization Model Teacher's Role In Equipping Student Readiness

Design Model Revitalization of teacher role as supervisor in learning practice is described as follows:

![Figure 2. The structural model revitalizes Teacher's role in equipping students' readiness](image)

Teacher as a supervisor (x) influenced variable: (1) Producing goods or services (production: x1); (2) Maintain and improve the quality of work and working atmosphere (quality: x2); (3) Controlling operational costs to keep product prices competitive (cost: x3); (4) Develop a simple, easy, systematic, flexible and adaptable way of working that can support the creation of high quality, fast and cheap production (methods: x4); (5) Seek and maintain high morale and harmonious working atmosphere (morale: x5); (6) Developing students’ knowledge and skills (training: x6); (7) Minimize the risk of damage and accidents in the workplace (safety: x7); (8) Maintain and maintain the environment (environment: x7); (9) Teacher as a supervisor is a coach for all students is a paradigm that should be used as a positive work ethos in developing the capacity of students.

3.1 Model Review

The model of teacher role development in practical learning is a model that is able to equip the readiness of vocational students' work comprehensively covering all areas of behavioural taxonomy, ie cognitive, effective, and psychomotor in a balanced way.

Practice learning in SMK is held in every semester with learning hours between 5 - 7 hours of learning. The intensity of continuous practice learning will occur habituation in doing a job, is a strategic container to equip work preparedness. The theory underlying the principle of habituation was developed based on the theory of connectionism according to Edward Lee Thorndike described that learning occurs due to the association between the stimulus with the response, the stimulus will give the impression on the five senses, while the response will encourage someone to act [9]. Explained that Thorndike succeeded in compiling three laws, among them the law of practice (the low of exercise), which then developed into two laws, namely the law of use (the low of use) and the law rather than the use (the low of disuse). This law of intent means that if training is repeated, the relationship between a stimulus (stimulus training) and response will be stronger.

Habit is a controlled, persistent, uniform, and almost automatic way of acting. The culprit almost did not realize it. Therefore, people who practice a habit can still focus their mind on other issues. The
targets of habituation are full participation in developing good habits and obeying rules, communication and feedback as a daily routine, activity.

Learning strategy developed is based on industry, meaning that teacher role as supervisor. The learning process refers to learning activities that describe both the role of teachers, students and the learning environment created by teachers.

Design of hypothetical model that describes the relation of the teacher's role development component that equips students' readiness in practice learning as presented below:

![Diagram of Revitalization Model The Role of Teachers in Equip Student Readiness](image)

**Figure 3.** Design of Revitalization Model The Role of Teachers in Equip Student Readiness

The hypothetical model of teacher's role development in equipping the readiness of the vocational school student begins with the study of the readiness of the students' work result of the demand analysis of the vocational graduates from the industry (work world), the result of the analysis of work system in the industry, and the result of the work level analysis of the SMK graduates according SKKNI. Furthermore, these findings form the basis for the drafting of the prototype model of teacher role development in practice learning and research instruments.

Products that have been designed as the first prototypes developed through self-evaluation are validated by technology and vocational education experts and practitioners based on content, constructs and languages. The model validation method used is Focus Group Discussion (FGD) and Delphi technique.

The effectiveness of the model is analyzed from the stages of teacher role development for job readiness. The effectiveness aspects studied are: (1) intensity, model is made according to student ability, competency scope, and emphasizes process skill with certain indicator; (2) objective, the model can equip students' readiness; (3) practical, ie easy to use model; (4) systematic, ie the model is made systematically and can be used continuously in learning practice; and (5) efficient, ie easy to use model.
3.2 Delphi Results
While the overall effectiveness of the teacher's role model development stage meets the criteria of prevalence and according to the assessment of educational experts/practitioners, there are some suggestions that need to be developed for model perfection. Expert advice on teachers' role development model is as follows: the number of teacher role attributes, given the limitations of teachers in implementing practical learning. Next is Delphi round II with the result as illustrated in the graphic image below.

Delphi Round II Results: An average rate of agreement \( \geq 90\% \) is included very well according to criteria [10]. In addition to the level of understanding is also considered advice, correction, or aspects of the expert.

The dimensions of teacher role development designed to obtain a level of understanding between 97\% to 100\% with an average of 98.61\%. Then the dimensions are worthy to be included as a variable in the study. The level category of understanding of the teacher's overall teacher development dimension was scored above 90\% which showed very high [10].

Delphi results of teacher role development indicators obtained suggestions and improvements. Environmental indicators need additional work safety. The recommendations are partially accepted for the perfection of indicators of teacher role development dimensions.

Based on the results of data analysis of the effectiveness of teacher role development it can be concluded that according to the assessment of the experts/practitioners based on their knowledge of theory and experience (expertise), the effectiveness and practicality of the model are very high. This means that conceptually the teacher's role development model meets the criteria of intensive, objective, systematic, effective, and practical. Nevertheless, there are a number of important inputs from validators that encourage the need for revision of teacher role development models. Suggestions and corrections of the experts/practitioners are essential:

- In part theoretical concepts need to be sharpened rational theory of teacher role development model.
- In the step-by-step application of the teacher's role development model needs to be more detailed about the teacher and student activities.

After a revision in accordance with suggestions and subsequent corrections in the re-validation, and experts/practitioners stated that the teacher role development model can be tested to meet the effectiveness and practicality of the model empirically through field trials.

4. Conclusion
The level category of understanding of the indicators of the development dimension of the role of the teacher is obtained by a score above 90\% which shows very high, so the hypothetical model of teacher role development as supervisor in practice learning is supported by PQCDSSMME variables (Production, Quality, Cost, Delivery, Safety, Method, Morale, Environment) that has been developed enables the readiness of VHS's students' work thoroughly in both cognitive, effective, and psychomotor. It is possible to have an integration process from student learning design, implementation and evaluation based solely on continuous improvement or performance management.

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