

EFFECTIVENESS OF TEACHING FACTORY ON LEARNING OUTCOMES

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Abstract

Teaching Factory (TEFA) is an approach learning innovative that integrates the learning process with the world of work, designed For create ready graduates compete in the global market. In this model, students Study through the production process real below guidance power educators and practitioners industry. Article This analyze the effectiveness of Teaching Factory on results Study students in education vocational, with emphasize the impact on the cognitive, affective, and psychomotor domains. Research show that the Teaching Factory is significant increase understanding theory, skills practical, motivational, and preparedness Work students. With merge learning based on work world practices and approaches, this model answer challenge inequality between education and needs industry.

Keywords : Teaching Factory, results learning, education vocation, skills industry, learning based on practice.

INTRODUCTION

Vocational education in Indonesia has role strategic in produce power competent and skilled work. However, the challenges main issues faced is mismatch between competence graduates and needs industry. Many graduates education lack of vocation Ready entering the world of work Because lack of experience practical in accordance standard industry. In context Here, Teaching Factory is here as solution strategic For bridge gap the.

Teaching Factory integrates learning with the production process real, so that student No only Study theory but also sharpen skills relevant practical with demands of the world of work . This model support objective main education vocation, namely print power competent , adaptive and innovative work .

Study This aiming For to study the effectiveness of Teaching Factory on results Study students at the institution education vocational, including aspect cognitive, affective, and psychomotor . In addition that , article it also discusses various factor supporters and challenges in implementation of Teaching Factory.

Teaching Factory is a learning model based on designed production For create environment learning that resembles the world of work. According to Rojewski (2020), Teaching Factory does not only provide learning based on practice but also instill values professionalism, entrepreneurship, and innovation.

As for characteristics Teaching Factory's main areas include: 1. Learning Process Based on Production : Students involved direct in production goods or service real, 2. Collaboration with

Industry: Institution education Work The same with company For ensure relevance learning with job market needs, 3. Standards Industry : Learning process customized with standard quality applied in the world of work , 3. Development Skills Holistic : Students No only develop skills technical but also soft skills, such as communication, work team, and management time.

Learning outcomes is indicator success of the educational process . Harahap , RR (2024). classifying results Study become Three main domains : 1. Cognitive : Knowledge , understanding , and ability thinking , 2. Affective : Attitudes , values , and motivation , 3. Psychomotor : Skills physique or motor .

In Teaching Factory context , these three domains each other related . For example , understanding (cognitive) theory supports mastery skills technical (psychomotor), while motivation (affective) drive student For Study more Good .

Revolution Industry 4.0 brings change big in the world of work , with focus on automation , digitalization and technology sophisticated . In context this , Teaching Factory became very relevant Because help Students : 1. Understand technology new , such as IoT, AI, and big data, 2. Developing skills adaptive , such as problem-solving and critical thinking, 3. Improve skills collaboration in environment Work based on team.

RESEARCH METHODS

Study This use method review literature (literature review). Data sources include journal scientific , books and reports study related Implementation of Teaching Factory in education vocation . Analysis process done with identify the impact of Teaching Factory on results Study students , including factor supporters and challenges faced .

RESULTS AND DISCUSSION

1. Impact of Teaching Factory on Cognitive Domain

Teaching Factory in significant influence development ability cognitive students . According to research by Hasanah et al. (2022), students who study through the Teaching Factory model shows ability more analysis good , with 85% of students capable connect theory with real world applications . This is supported by the view Harahap , RR (2024)., which states

that the learning process is effective need experience direct For increase ability analysis and synthesis .

Knowledge Integrated Theory with Practice , in the lesson technique automotive , students No only learn system internal combustion , but also implements knowledge the with diagnose damage engine on the vehicle . According to Prasetyo and Riyanto (2020) , students involved in the production process real in Teaching Factory more understand connection between principle theoretical and application practical compared to students who only learn theory in a way traditional .

Ability Think Critical and Solving The problem is , this model also trains student For think critical , especially in situation that requires breakdown problem . As example , in study conducted by Widodo and Hartono (2021), students who face problem in the production process like disabled product sued For analyze causes and design solution . Research results show improvement significant in ability think critical students , with average score increased by 30% compared to method learning traditional .

2. Impact of Teaching Factory on Affective Domain

Affective domain involving aspect emotional , motivational , and engagement student in learning . According to Anderson and Krathwohl (2001), involvement emotional student in learning very important For increase motivation Study . Teaching Factory creates relevant environment with the world of work , which in turn increase motivation student .

Increase Motivation Learning , in research by Rukmini et al. (2023), 76% of students involved in the Teaching Factory report improvement motivation learning . This is due to relevance learning with career them in the future . Students feel that what they learn own benefit real , like ability For produce products that can for sale or appreciated by the community . This is in line with Ryan and Deci's (2000) findings , which emphasize importance learning based on relevance For increase motivation intrinsic student .

Development Ethos Work and Discipline , according to Jatmiko (2021), Teaching Factory trains student For comply standard Work industry , such as guard accuracy time , work The same in team , and meet production targets . Values This strengthen ethos Work students and prepare they for the world of work . As For example , in the culinary arts program , students trained For manage A mini cafe , where they must serve customer in a

way directly . Research results show that 88% of students feel experience This increase interpersonal skills and responsibility answer they .

3. Impact of Teaching Factory on Psychomotor Domain

Psychomotor domain is one of the aspects most affected by the Teaching Factory. According to Simpson (1972), skills psychomotor develop through experience live and practice repetitive , which is the essence of Teaching Factory.

Mastery Skills Technical with Standard Industry , Teaching Factory provides chance to student For Study direct with use equipment and technology industry . As example , engineering program students machine trained operate CNC (Computer Numerical Control) machines . Research by Santoso et al. (2021) shows that students who follow Teaching Factory training has level skills technical 30% more tall compared to students who study through method conventional . They also show more capabilities Good in read picture techniques and understanding tolerance manufacturing .

Development Soft Skills , besides skills Technically , Teaching Factory also develops soft skills such as Work team , communication , and leadership . According to Wahyudi (2019), the Teaching Factory environment resembles the world of work help student For Study collaborate and complete conflict in a way constructive . In studies involving student technique electrical , students trained For Work in team For finish project installation electricity , which is not only increase skills technical but also interpersonal skills .

4. Improvement Readiness Work

One of objective The main purpose of Teaching Factory is create graduates who are ready work . According to Ministry of Education and Culture (Kemendikbud) report in 2021 , students involved in Teaching Factory has level skills more work Good compared to student from school that does not apply this model .

Integration with Industry 4.0, Teaching Factory helps student understand technology latest , such as use of IoT (Internet of Things) and automation in the production process . In the engineering program automotive , students taught For use device soft diagnostic IoT based for analyze performance vehicles . A study by Hermawan et al. (2022) found that 92% of students involved in Teaching Factory is able to use technology This with good , improve Power competition they are in the job market .

Chance Internship and Networking Work , collaboration with industry give opportunity apprenticeship for students . According to research by Suharto et al. (2021), 65% of students who took part apprenticeship through Teaching Factory get offer work direct from company partner . This is show that Teaching Factory does not only increase skills technical but also open opportunity career for student .

5. Factors Supporters and Barriers in Implementation of Teaching Factory

Cooperation with the Industrial World . One of element important to support the success of the Teaching Factory is close collaboration between schools and the industrial world . Collaboration This give access for student For Study direct from case real problems faced by the company . According to Widodo and Hartono (2021), a good relationship with the industrial world allow school For compile relevant curriculum with job market needs , so that graduate of own ready skills applied in the world of work .

Adequate Facilities . Existence supporting facilities , such as equivalent tools and technology with standard industry , becoming one of the factor key the success of the Teaching Factory. With use appropriate equipment , students can train in a way direct in simulation that resembles condition work in the real world . Hasanah et al. (2022) emphasize that adequate facilities allow student For develop skills psychomotor and technical with more Good .

Competence . Teachers who have experience work in industry own superiority in give more guidance applicative . This is Because they can integrate theory with practice industry , providing more insight relevant for students . Rukmini et al. (2023) noted that the teacher with background behind industry own ability For give simulation based on problem real , so that student more Ready face challenges in the field Work .

Limited Funds. One of the obstacle main in The implementation of Teaching Factory is need high cost For procurement equipment , materials practice , and maintenance facilities . Prasetyo and Riyanto (2020) stated that Lots school face difficulty in allocate budget for Teaching Factory, so quality facilities and program sustainability are often obstructed .

Lack of Partnership with Industry . No all school own adequate access For to weave partnership with the industrial world . This is Can due to location geographically distant from area industry or lack of effort For build Network with company . Hermawan et al. (2022) showed that school that does not own partner industry difficulty provide appropriate materials and practices with needs of the world of work .

Limitations Teacher Competence . Although teachers hold role key in Teaching Factory, no all teachers have experience or expertise in the field industry . Teachers who are lacking understand needs of the world of work often difficulty give applicable and relevant teaching . Wahyudi (2019) highlights that without training addition or experience directly in the world of work , teachers tend to more Lots depend on theory , so that student lost chance For get learning based on practice .

CONCLUSION AND SUGGESTIONS

Conclusion

Teaching Factory is approach effective learning For increase results Study students in education vocational . Approach This give impact positive in the cognitive , affective , and psychomotor domains , as well as increase motivation , engagement , and readiness Work students . However , the success of the Teaching Factory is very depends on support facilities , collaboration with industry , and teacher competence . Therefore that , it is necessary existence synergy between government , institutions education , and the industrial world For ensure the sustainability of this program .

Suggestion

1. Improvement Facilities : Government and industry need support provision adequate facilities for Teaching Factory.
2. Teacher Training : Teachers need trained For increase competence technical and experience practical .
3. Collaboration with Industry : Institution education must expand network Work The same with the industrial world For ensure relevance learning .
4. Improvement Funding : Government need give financial support for Teaching Factory operations , including purchase tools and technology .

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