Research Article

Diagnosis of Physical Education Teachers Welcoming Industry 5.0 Using the TDC Method

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Abstract.
The purpose of this study is to understand the challenges faced by the physical education teachers, nowadays, in industry 5.0. The method used was the IT literacy survbey along with Teacher Digital Competence (TDC). Meanwhile, qualitative research was done by distributing questionnaire and tests knowledge to 103 students of Internal Teacher Professional Education Position 2022. The sample selection technique used was purposive sampling, based on purpose and availability sample for inspection. Results were obtained from technical competence 77.38% mastered, while 22.62% did not master; content knowledge competence 69.91% who answered correct and 31.09 answered incorrect; pedagogical and learning design competence 39.89% implemented, 60.1% did not implement in learning. Based on the data above that required enhancement competence, skills-based technology is suggested for welcome industry 5.0.

Keywords: physical education, industry 5.0, tda method

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1. INTRODUCTION

Physical education is a learning for move through integrated motion with knowledge knowledge as well as branch sport so that could accepted by students (Faridah, 2016; Ramadhana & Tuasikal, 2018). Physical education have characteristic specific to activity motion and executed outside room class (Ginanjar, Suherman, Juliantine , & Hidayat , 2020; Stephani, 2017). Learning Physical Education is very important for student because capable grow pattern life healthy, as well develop aspect fitness physique, skill motion, skill think critical skills social, reasoning, stability emotional, moral action, aspect pattern life healthy and familiar environment clean through activity physically (Hartanti , Nurhasan , & Tuasikal , 2020; Lesmana , 2018; Mashuri , 2017; Arifin, 2017). Learning education physical is activity very influential school learning because give positive influence on development students (Koc, 2017). Education teacher physical is somebody or people who have not quite enough answer in give education and trans-fer knowledge knowledge (Ramli, 2015). Education teacher professional physique is expected capable designing interactive learning, inspiring, fun, challenging, motivating

student for participate active in the learning process (Yulianto , Roesdiyanto , & Sugiharto , 2017).

The purpose of physical education with all its characteristics, teachers improve their competence in managing the teaching and learning process. In the teaching and learning process, the teacher not only acts as a transmitter of knowledge, but is also responsible for the development of the student's personality. Teachers must create a learning process in such a way that it can create students to learn effectively and dynamically in meeting and achieving the expected goals. Teachers are currently faced with enormous challenges because the industrial era 4.0 has not yet entered, they are surprised by the emergence of industry 5.0 which must be faced and is a challenge for elementary school teachers (Abidah, et al, 2022). Industry 5.0 will solve various problems with the various technologies offered. Humans who excel in the industrial era 5.0 must have 4 competencies, namely Leadership, Language skills, IT Literacy, and Writing skills (Sakti, 2021). All teachers need to recognize the challenges and opportunities that exist in the 21st Century in order to prepare for student life (Nastiti & Abdu, 2020). Teachers have an important role in preparing students who are ready to face the future (Pujiono, 2021).

Said Abidah et al (2022) explained schoolteacher challenge based on industry 5.0 and Sakti (2020) focused on indicators eportfolio on a learning. The ability of the teacher in doing learning Industry 5.0 is necessary deep evaluation. Industry 5.0 students only need technology for develop source power, however students also need socialize with environment around to get extensive and explanatory information as well as convey the identity by effective because communication is connecting intermediary communication and progress technology obtained (Ambarawati, 2021).

Teacher digital competency (TDC) analyze competence technical refers to strong knowledge about operation various digital technology, eg device mobile, app, service networks, and so on (Fallon, 2020). Competence technology more focuses on understanding theoretical related role and potential deep digital technology learning, and knowledge about underlying reasons inclusion in environment education. Study simple required for diagnose teacher readiness physical welcome industry 5.0 with method TDC.

2. METHOD

Method study is is method survey, conducted with destination solely for give description about readiness of Physical Education teachers in welcome industry 5.0. Type study is cross sectional survey where data only obtained / collected for time certain just with destination describe condition existing population. Method data collection using mail

survey. Researcher only need send questionnaire to respondent via e- mail. The sample used is an education teacher physical education taking part in Teacher Professional Education Batch 1 of 2022. Selection technique sample use probability sampling. Amount the sample used was 107 people. time used for To do study is period time month July-August 2022. Venue study LPTK Teacher Professional Education participants in East Java.

3. RESULTS AND DISCUSSION

Results obtained from data retrieval online with a target sample at level education as following.
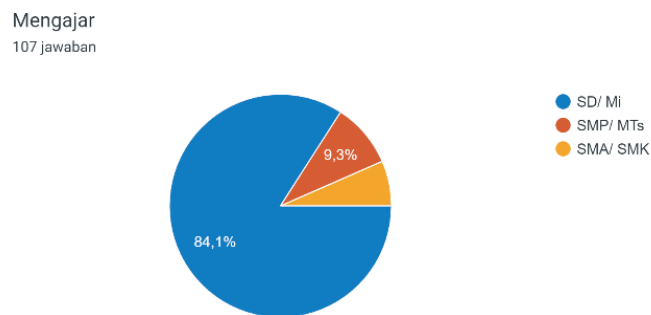

Figure 1: Work unit sample PPG participants.

From the diagram above show that level education sample from a Physical Education Teacher Inner PPG participants Position Batch 1 in 2022 at the level school base with percentage 84.1%, level school medium first with percentage of 9.3% and level school medium on with percentage 6.6%
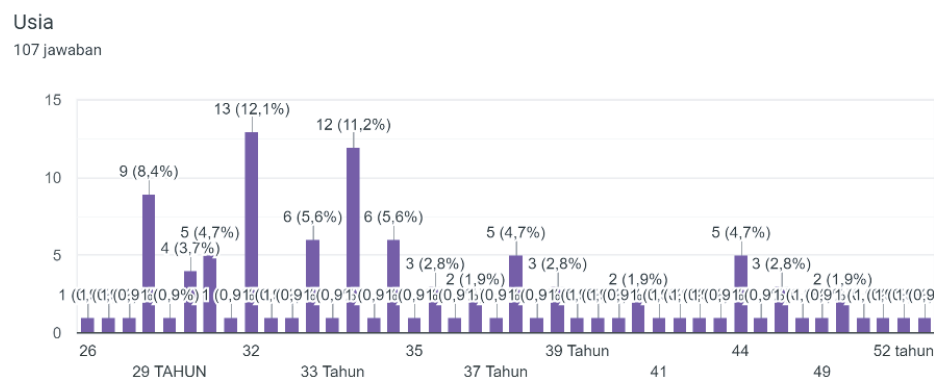

Figure 2: Age sample PPG participants.

From the diagram above show age sample from Physical Education Teacher PPG participants in The position of Batch 1 in 2022 is the youngest age is 26 years old and the oldest is 52 years old . Age who join PPG the positions of Batch 1 in 2022 are first , 32 years old with the percentage of 12.1%; second , 34 years old with percentage 11.2%; third , 29 years old with percentage 8.4%.

TABLE 1: Survey Results Using the TDC Model.

A	technical competence	Dominate	Not Dominate
		77.38%	22.62%
B	content knowledge competence	Right	Wrong
		69.91%	31.09
C	pedagogical and learning design competence	implement	Not implement
		39.89%	60.1%

Based on table above _ results obtained _ from technical competence 77.38% mastered and 22.62 did not master; content knowledge competence 69.91% answered correct and 31.09 answered wrong; pedagogical and learning design competence 39.89% implement 60.1% do not implement in learning.

Basically, technology education is systematic and critical approach to education. Technology education looked study teach as problem or problem to be faced by rational and scientific. Technology education is development, implementation, and assessment systems, techniques, and tools for improve and perfect the learning process human (Ahmadi & Ibda, 2019). In definition this, more important for prioritize the learning process that alone compared with tool that can help the learning process. because it can said that technology education is about device software and devices hard, device soft including analyzing and planning order or steps learning based on desired goal achieved with method presentation and assessment success (Nasution, 2011).

Teachers must be able to teach, be able to become learners and agents of school change, and be able to establish relationships with the community in order to improve the quality of their schools. Teachers must have the ability to support the main task in preparing students who are ready to face the future (Hasanah, 2019). Therefore, teachers need to understand future living conditions and the challenges they face as well as opportunities that can be utilized so that students can survive (Pujiono, 2021). Educators as human resources who identify long-term student needs in learning need to strengthen the foundation of student character in order to prepare humans who are able to face industry 5.0 by maximizing 21st century skills (Oviyanti, 2016; Sumarno, 2019; Ashadi and Suhaeb, 2020; Nastiti and Abdu, 2020).

According to Ashadi and Suhaeb (2020), app learning based technology in facing industry 5.0 helps make it easier for teachers and students for carry out the learning process by more deep. this because good student as well as teachers can gather task, share task, assess homework or anywhere without bound by limitations time. Election method learning is factor main need applied in learning. In accordance with needs 21st century in industry 5.0, teachers need vary the learning model that will applied to students. Learning that can be chosen in framework realize source power superior human is a student center model. Student centered learning will activate knowledge possessed students, minimize boredom in learn, and awaken interest student in notice lessons in class (Prasetyo, Hidayat & Dimas; 2019).

TDC framework could use for map or audit content and pedagogy course existing teacher training or new all over field discipline science, for check how far are they offer opportunity for student for build more understanding and ability harmonious holistic with framework work. TDC model must understood and accepted with good by all institution education, which must be ready apply it when planning and developing programs (Fallon, 2020).

Based on diagnosis beginning related teacher readiness physical in welcome industry 5.0 could concluded that from facet technical competence, content knowledge competence and pedagogical and learning design competence, still not enough maximum conducted by educational teachers physical for component pedagogical and learning design competence. Education teacher physical by consistent and sustainable must capable apply inside learning education physical. Utilization technology in education physical Becomes point important for increase effective and efficient learning.

4. CONCLUSION

Physical education teacher competencies are needed to function productively, safely and ethically in a diverse and increasingly digitally mediated environment. It highlights the importance of this in relation to the future role of physical education teachers, educating young people to help them build the capacity to take advantage of the benefits of digital resources and information in a safe, secure and sustainable way.

The ability of teachers in industry 5.0 in the field of basic education really needs to be considered. Teachers must have optimal competencies and meet the qualifications to jump-start the needs of Industry 5.0 in educating students. Facing industry 5.0, teachers can make the best use of the facilities and infrastructure and equipment available in schools. In addition, competence must also be possessed, with good skill competencies, elementary school teachers can develop and improve the quality of learning in order to

welcome industry 5.0. Industry 5.0 learning prioritizes human resources (teachers and students) as the center of innovation in learning.

Education teacher challenge physical the more increase with existence enlightenment new for source power man that is challenge face industry 5.0. Not even this regardless from various opportunities that can made as one method for build and educate generation for more Empower compete and take part in the era of globalization without limit.

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