



Teacher Profesionalism in Facilitating Students to Have 21st Century Skills

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DOI: 10.15294/dp.v18i1.44543

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History Article

Received May 25, 2023
Approved July 22, 2023
Published July 23, 2023

Keywords

Professionalism; Skills;
21st Century

Abstract

This study aims to determine the readiness of vocational school teachers in facilitating students to master 21st century skills. This qualitative research using in-depth interview techniques. The respondents of this study were vocational school teachers in the Special Region of Yogyakarta. This study using thematic analysis with ATLAS.ti program. The results of the study explain that teachers' perceptions of 21st century skills vary widely, including the 4Cs (communication, creativity, collaboration, and critical thinking), technology, problem-solving skills, competence, innovation, competitive ability, religious character, and morals. Activities that have been carried out by teachers to facilitate students in mastering 21st century skills are applying various learning models, learning methods, and interesting learning media. The strategy to facilitate students to have 21st century skills is that teachers need to improve the various skills needed to teach students, namely mastery of technology. The support provided by the school is the provision of learning facilities and opportunities to participate in various scientific activities to improve their skills and professionalism. The challenges faced by teachers are the lack of understanding and use of technology and the varied backgrounds of students. Suggestions for teachers are to increase professional competence in facilitating 21st century skills.

How to Cite

Septiana, Y., Widayati, A., Wibawa, E.A., & Hakim, A.R.(2023).Teacher Profesionalism in Facilitating Students to Have 21st Century Skills.*Dinamika Pendidikan*, 18 (1), 88-95.

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p-ISSN 1907-3720
e-ISSN 2502-5074

INTRODUCTION

The development of the 21st-century world is marked using information and communication technology in all aspects of life, as well as the increasingly interconnected world of science so that the synergy between them becomes even faster. Technology can connect the world that transcends geographical boundaries so that the world becomes borderless (Castells, 2014; Karim & Daryanto, 2017). The 21st Century Skills are a necessity so that graduates can compete in the global world. 21st Century consist of critical thinking, problem-solving, creativity, and communication skills (Kemendikbud, 2017; Rotherham & Willingham, 2009) and build individual learning abilities to develop into independent and active lifelong learners, teachers are recommended to have technological abilities and skills so that they can train students to master the skills in question (Blaschke & Hase, 2014; Hermansyah et al, 2021; Oates, 2019).

Teacher professionalism is related to how to facilitate students (teaching practice of teachers) directed to interest in 21st Century skills by using and utilizing information and communication technology (Kang, Kim, Kim & You, 2012). The International Society for Technology in Education divides 21st Century teacher skills into five categories (Daryanto & Karim, 2017): (1) Able to facilitate and inspire student learning and creativity; (2) Design and develop learning experiences and assessments digital era; (3) Become a model for learning and working in the digital era; (4) Promote and model responsibility and digital society; (5) Participate in professional development and leadership.

Professionalism can be interpreted as a commitment from members of a profession in improving their professional skills and developing strategies used for carrying out work in their profession (Isrokatun et al., 2022). Najmi (2021) argues that the teaching profession is a special expertise and authority in the field of education, teaching, and training that is occupied to become a livelihood to meet the needs

of the life concerned. Teacher professionalism has been able to be applied in learning activities (Amelia et al., 2022; Khanifatul Azizah & Fuadi, 2021; Sjoer & Meirink, 2016), so teacher professionalism is something that must be inherent in the teacher's personality which of course needs to continue to strive to develop its professional level.

In terms of facilitating 21st Century skills for students, not only the teacher's role is important, but the readiness of SMK is required. The readiness of SMK and the readiness of teachers in facilitating students to carry out 21st Century learning needs to be known. In addition, teachers' understanding of 21st Century skills, challenges, and activities carried out by teachers to be able to facilitate student learning also needs to be known. This is to know the readiness of teachers in facilitating 21st-century skills.

Several studies state that teachers' understanding, and readiness levels vary in preparing students for 21st Century skills (Prayogi, 2020; Balan et al., 2021; Selamat et al., 2017). If teachers have diverse readiness, then the results obtained will also vary, even though the demands of the world of work are the same, namely having high 21st-century skills. The results of the latest teacher competency test (UKG), in which the aspects tested were pedagogical and professional competencies, show differences for several groups of teachers.

Civil servant teachers got a score of 51.43 points, permanent foundation teachers got a score of 52.82 points, regional honorary teachers got a score of 48.21 points, and temporary teachers got a score of 49.19 points (Jawapos, 24 Feb 2022). In addition, for teachers who already have professional certificates, of course, they must develop professionalism in a sustainable manner (UU No. 14 of 2005, Permenpan No. 16 of 2009) which is more structured than those who have not attended teacher certification (Widayati, 2017). This is done to maintain professionalism and improve performance.

The results of several studies show that teachers have different activities in facilitating

student learning (Stappenbelt, 2013; Widayati, 2021). For problems related to teacher professionalism in facilitating students to have 21st century skills, the authors have conducted qualitative research at Vocational Schools in the Province of the Special Region of Yogyakarta to find out how teacher's perception about 21st century skills, learning activities, strategies, support, and challenges in facilitating students to have 21st Century skills.

METHODS

This study was qualitative research with respondents studied were 28 Vocational School teachers in the Province of DIY using the snowball technique sampling. The author collects data using in-depth interviews using interview guidelines validated by expert judgment. Furthermore, the data were analyzed by thematic analysis. Thematic analysis is a method for identifying, analyzing, and interpreting patterns of meaning ('themes') in qualitative data (Clarke & Braun, 2017), and is supported by source triangulation techniques. This thematic analysis using ATLAS.ti program.

RESULT AND DISCUSSION

Based on data analysis, there are three themes from the professionalism of Vocational School teachers in facilitating students to master 21st Century skills. First, Teachers' perceptions of 21st-century skills. Vocational school teachers said that 21st-century skills include: (1) 4C (communication, creativity, critical thinking, collaboration); (2) Information and communication technology; (3) Problem-solving skills; (4) Have competence; (5) Have innovation; (6) Can compete for; (7) Have religious character and morals.

Figure 1 give information about 21st century skills. Of the 28 respondents, 21 Accounting teachers perceived 21st Century skills as the 4C's, namely communication, creativity, critical thinking, and collaboration. As stated by one of the teachers (Teacher 9) that

"21st Century Skills that are generally known to be related to 4C (communication, critical thinking, collaboration, and creativity)." Of these four skills, some teachers emphasize the communication aspect first, for example as said by Teacher 3: "*The main thing for students is communication, ...*"

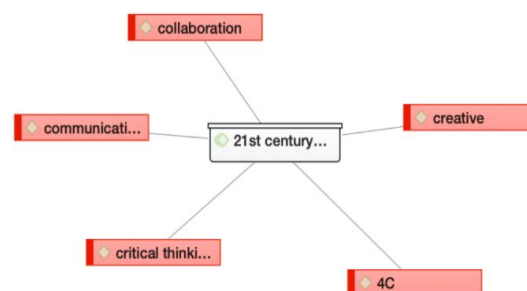


Figure 1. 21st Century Skills

According to him, communication holds a very important key, if everything is communicated effectively, then the other person will be able to understand what we mean, in other words, communication plays an important role in conveying messages. Apart from that, to be able to communicate globally, the requirement that must be met is the ability of a foreign language, especially English. This is as stated by Teacher 10 where students must be able to communicate verbally and must be able to speak a foreign language.

Furthermore, after having communication skills, students are expected to be able to have creativity, can cooperate, and think critically. This critical thinking ability is associated with the ability to solve real problems. Of the 28 teachers, as many as 5 Accounting teachers explained the importance of problem-solving skills to compete in the world of work. As one teacher stated that children are expected to be able to solve problems. In addition to the 4Cs, Accounting teachers perceive 21st Century skills as skills to master and utilize technology. Figure 2. Provides information related to technology. Technological advances have an impact on the 21st century skills possessed by students. The results of the respondents said that technology consists of 3 components including: information updates, based on technology, examples of technology.

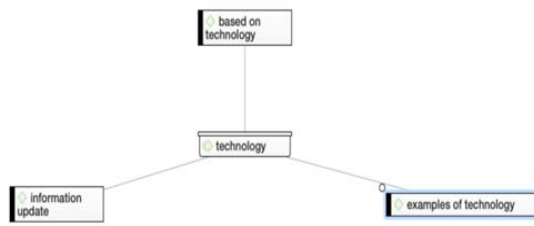


Figure 2. Technology

12 Accounting teachers state that technology must be mastered by their students. For example, Teacher 4 explains that "21st Century Skills are technology-based skills...". Technology is used both in learning and later when entering the world of work. This capability is needed in today's digital era. As Teacher 8 said, "All the children have started to progress, especially since yesterday's pandemic so everything is online, plus children have abilities in the digital field, the teacher must also be able to assist in the digital era, in my opinion in general. All these needs must be supported by the ability to use technology.

Some of the skills that have been described, namely communication skills, being creative, working together, critical thinking, problem-solving, and skills using technology is at the top of teacher perceptions of 21st Century skills. Apart from these skills, the accounting teacher explains that students must have competence, innovation, can compete, and strong religious character and morals to be able to compete in the world of work. Several reasons why graduates are important for mastering 21st Century skills, the following is the teacher's explanation during the interview.

These reasons include readiness to enter the world of work, being able to adapt to work and society, utilizing technology in learning and work, having skills, and solving problems and making decisions. Most of the teachers described that to be able to compete, and enter the world of work, graduates must master 21st Century skills. As explained by Teacher 7, "That is very important because when they enter the world of work, they will be required to apply more 4C in their work." In addition, these skills are needed if graduates want to

become entrepreneurs. Several other reasons complement the needs of graduates to be ready to compete in the world of work both as workers and entrepreneurs.

Second, learning activities that should be and have been carried out by the teacher to direct students to master 21st Century skills. Accounting teachers think that various activities can be carried out by them to facilitate students in mastering 21st Century skills. Among these activities that should be carried out by teachers are as follows: (1) Implementing team teaching learning mode; (2) Implementing various teaching methods including peer tutoring, group study, case studies, projects, computerization practices, literacy activities, discussions, presentations, and mind-maps; (3) Applying various learning models including problem-based learning, project-based learning; (4) using technology-based learning media, (5) Make class agreements.

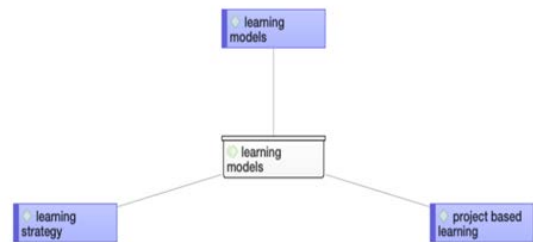


Figure 3. Learning Models

Figure 3 provides information about learning models. Various models, methods, and learning media that should be implemented, except for team teaching, have all been carried out. As explained by Teacher 3 who uses the peer tutoring method, "here I prefer peer tutors, that's where I put the concept of collaboration there so that it's not just collaboration during discussions, but also a collaboration with peer tutors". In addition to the methods used, Teacher 17 said that they facilitate students with problem-based learning (PBL) and project-based learning (PJBL) models, "with PBL then the only thing is PJBL or project-based learning, right? directly practicing production, for example by practicing wood, he can immediately see the results

of his work.” From these various activities, students can hone their skills by participating in competitions, entrepreneurship, creativity, and training. Centre of Excellence Vocational School (PK) also supports students to excel and be absorbed in DU/DI. Activities to improve 21st Century skills for students can be started by the teacher compiling learning tools that contain 21st Century skills, also supported by the LSP.

In addition to learning models, teachers also apply learning methods as shown in Figure 4. Of the various activities that can be carried out by teachers, so far what has been done to direct students to master 21st Century skills includes forming small groups, discussions, presentations, practical activities, and literacy activities.

For practical activities, students practice at school in the form of accounting computer lessons, accounting cycles, and entrepreneurship. Practical activities outside of school, namely field work programs in DU/DI (PKL). In addition, respondents also attended training to master 21st Century skills before facilitating students to master 21st Century skills. In learning, teachers facilitate students to master 21st Century skills by communicating, collaborating, giving instructions, and setting examples to students.

Third, Strategies, support, and challenges in facilitating students to master 21st Century skills. Respondents conveyed the strategies that must be carried out by you so that students can master 21st Century skills inclu-

ding explaining concepts, giving independent study directions, implementing project-based learning, conducting evaluations, and communicating. In addition, participants were asked to study with peers, discuss, practice, case studies, exercises and questions, and answers. Teachers need to attend workshops to improve teacher competence. Then the teacher needs to evaluate the use of past and present learning strategies adapted to the characteristics of students. The strategy that should be carried out by the teacher is to produce graduates who have an entrepreneurial spirit and are obedient.

Respondents conveyed the skills that teachers must have included 4C, IT mastery and development, and literacy. The teacher can present learning material by continuously updating new information. Teachers need to improve competence, especially professional competence related to mastery of accounting studies. Teachers are responsible and role models in mastering 21st Century skills. Regarding the support received by teachers in facilitating students to master 21st Century skills, the teacher explained that the support received varied. Most of the teachers stated that the support they received was sufficient, and some were even quite good. However, several respondents stated that the support was still lacking. This diversity is due to the ability and culture of the school.

Some forms of support provided by schools include facilities, infrastructure, organizing training, organizing workshops, te-



Figure 4. Learning Method

aching factory activities, online learning platforms, implementing literacy programs, and visiting teachers from the industry. Facilities and infrastructure provided by schools to facilitate students to master 21st Century skills include laboratories, learning media, internet, WIFI, LCD projectors, information systems, and Mini Banks. Several respondents stated that the support received by teachers was still not optimal. This is reflected in limited funding, limited infrastructure, and up-to-date facilities that still need to be improved.

In general, the challenges faced by teachers in facilitating students to master 21st Century skills can be grouped into three things, namely challenges originating from students, challenges originating from the teachers themselves, and challenges from other sources. Challenges that come from students include poor character, the quality of student input, less active students, lack of concentration, lack of independence, feeling inferior, and lack of self-awareness.

Challenges that come from the teacher's personality include teachers who are less competent in using technology and students who are more literate technology. Most teachers feel that their students are smarter and more sophisticated in using technology, so teachers need to balance the abilities of these students.

Furthermore, the challenge comes from other sources, namely family background, school conditions, and environmental conditions. When viewed from the family background, most students come from the middle to lower economic level. In addition, some students come from broken home families. When viewed from the school environment, the challenge is that internet and computer facilities in schools are not yet optimal. Meanwhile, when viewed from the environmental conditions there are students whose homes are far from the school where the location where they live is difficult to get an internet signal.

The results showed that most respondents stated that the 21st Century skills that students needed to master were identical to the 4Cs, namely communication, creativity, critical thinking, and collaboration skills. The results of this study support research conducted by Purnawirawan, Sudana & Harlanu (2019) which states that communication, creativity, critical thinking, and collaboration skills are important for vocational students to have. The results of this study also corroborate the findings of Autor, Levy, & Murnane (2003) which state that demanding flexibility, creativity, generalized problem-solving, and complex communications are very important skills for students to master.

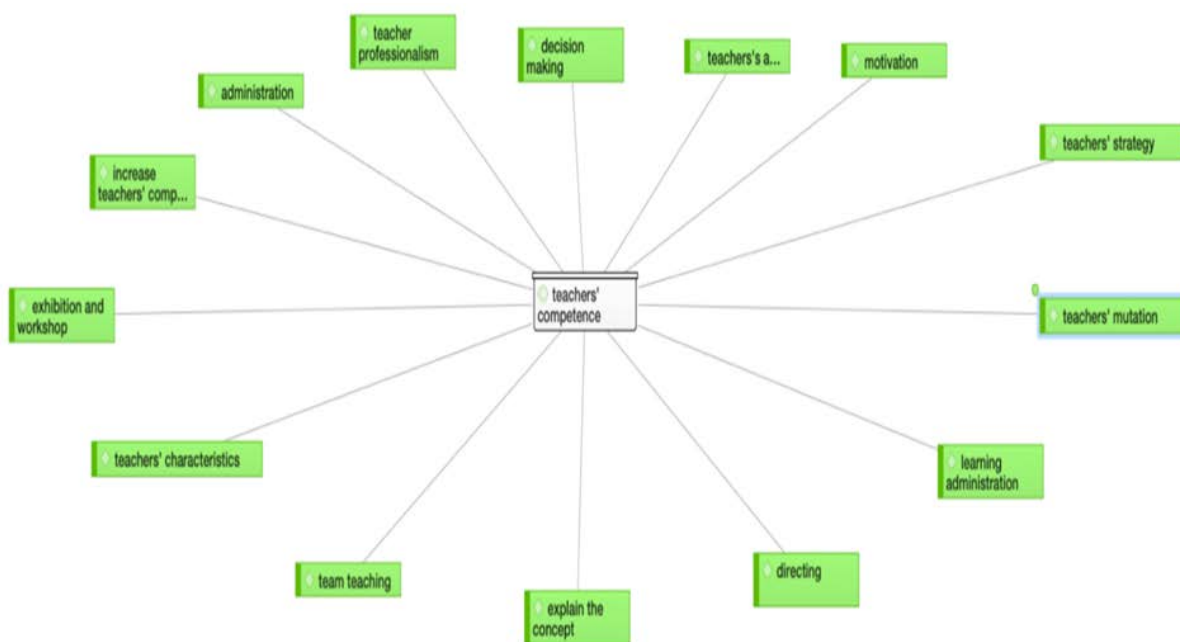


Figure 5. Teachers' Competence

Improving 21st Century skills for students is necessary to improve teacher quality teaching (Kang, et.al., 2019). Some learning activities that should be carried out by teachers to direct students to master 21st Century skills include learning strategies. This is in line with the research results of Mu'minah and Suryaningsih (2021) which state that learning strategies can be used with STEAM (Science, Technology, Engineering, Arts, and Mathematics). The learning strategies used by teachers can facilitate 21st Century skills for students. Other learning strategies can use namely problem-based learning and project-based learning. This is in line with the results of the research by Saldo and Walag (2020) that these two learning models can be implemented in learning to improve 21st Century skills.

CONCLUSION

The majority of teachers' perceptions of 21st-century skills emphasize the 4C's, technology, and problem-solving skills. While the most important reason why 21st-century skills are important for graduates is to be able to compete and enter the world of work, in addition to adapting to society. Teachers have implemented various learning models, learning methods, and interesting learning media. Of the various activities that must be carried out, only team teaching has not been implemented.

Regarding strategies to facilitate students to have 21st-century skills, teachers need to improve the various skills needed to teach students, including mastery of technology. The support provided by the school is in the form of providing learning facilities and opportunities to participate in various scientific activities to improve their skills and professionalism. The challenges faced by teachers are the lack of understanding and utilization of technology and the very varied backgrounds of students. Suggestions for teachers are to increase professional competence in facilitating 21st century skills.

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