

Conference Paper

Vocational School Teacher Competence Need Analysis Based on 21st Century Learning For Millennial Generation

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Abstract

The purpose of this study is to identify teacher competencies in applying 21st century learning and other competencies that teachers must have in dealing with millennial generation. The research method used in this research was descriptive quantitative. The population of this study was the teachers of the Construction Technology Study Program teachers from 7 Vocational Schools in Bekasi, Depok and Jakarta. The sample of this study was 47 people. The results showed that almost 100% of teachers used technology for learning. The method used is discussion to improve critical thinking through Problem Based Learning (PBL) learning models, Project Based Learning (PjBL), Contextual Learning, Cooperative Learning models. To improve communication and collaboration, teachers give assignments in groups and are discussed and presented. And to increase creativity, teachers provide freedom to find learning resources. In other words, that the teacher has applied 4 C (communication, creativity, collaboration and critical thinking) in learning. However, teachers need training and mentoring to improve competency skills.

Keywords: 21st century learning, competence, millennial generation

1. Introduction

The 21st century has been marked by the rapid development of Information and Communication Technology (ICT) and has an influence on aspects of life including the learning process. International demands for teacher assignments into the 21st century are not easy. Teachers are expected to be able and able to organize a learning process that rests and implements four learning pillars recommended by the UNESCO International Commission for Education, namely learning to know, learning to do, learning to live together to live together) and learning to be (learning to be / develop yourself). The four pillars are designed to education as organized and sustained communication designed to bring about Learning).

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It must be recognized that the phenomenon of internet usage and access to social media through electronic devices has become a new lifestyle for modern societies throughout the world. Of course this condition presents its own challenges for teachers today, because teachers as professional staff must meet various competency requirements to carry out their duties and authority professionally in the face of a generation called millennial. Studies on millennial generation, especially in America, have been widely carried out, including studies conducted by Boston Consulting Group (BCG) with the University of Berkley in 2011 with the theme of American Millennial: Deciphering the Enigma Generation. The previous year, 2010, the Pew Research Center also released a research report titled Millennial: A Portrait of Next Generation. Based on these studies, these are the characteristics of the millennial generation;

First, millennial do not believe in one-way information; Second, Millennial prefers cellphones to TVs; Millennial has a social media account to communicate; Fourth, millennial don't like to read; Fifth, millennial generation knows technology better than their parents; Sixth, millennial generation tends to be disloyal, but works effectively; Seventh, millennial do many *cashless* transactions

Based on these conditions, the demands of the times make teachers have to change their mindset about learning outcomes. Teachers are also required to be able to achieve the 21st century learning goals known as 4C namely critical thinking, creative thinking, collaboration and communicative. [1] states that professional teachers in the 21st century must have the ability to facilitate students in order to have competencies in accordance with what is conveyed by 21st Century Partnershi Learning Framework that is 1. Information and communication skill: a) information and media literacy, b) visual literacy, and c) communication skills.; 2. Thinking, reasoning and innovation skills: a) critical thinking, b) system thinking, c) problem solving, d) creating and innovating; 3. Personal and works place productivity skills: a) interpersonal and collaboration skills, b) initiative and self-direction, c) flexibility and adaptability, d) ethical behavior, e) social/ personal and cross-cultural skills, f) project planning and development, and g) productivity and accountability. This ability is closely related in preparing methods, strategies, and learning models and is able to use media technology and information in the learning process. [2] added (2016) that the competency needs of teachers in the digital era are: Pedagogical competence: teachers must have good teaching skills so that the learning process is effective. Second, Information Engineering Competence, namely the ability to utilize this information technology such as analysis, design, implementation, management, and instructional evaluation of education. Third, Personality Competence, that is a steady, stable, mature, wise, and authoritative personality and is an example for students and

having good morals. Fourth, Development of Social Competence, namely skills in social interaction and carrying out social responsibility. Fifth, Professional Competence that is able to facilitate and inspire student learning and creativity, so that teachers are able to compete in creativity and are ready to face challenges far greater than in previous eras. However, several studies have shown that the current conditions lack teacher competence in terms of quantity, quality and professionalism. Besides the challenges of the pre-digital world that resulted in the difficulty of building effective communication, especially in learning with students. Based on the problems mentioned above, this study will analyze the teacher's needs for 21st century learning competencies in dealing with millennial generation.

2. Methodology

The study utilized quantitative method. Survey questionnaires were distributed to 47 vocational teachers. After the data gathered, it was tabulated and interpreted. Microsoft excel was used to graph the data gathered. The population of this study was a teacher at the State Vocational School in Construction and Property Technology Expertise Program at Bekasi, Depok and Jakarta. The sample used in the study was productive teachers totaling 47 teachers. The instrument used refers to the 21st century learning lattice that is Collaboration, communication, creativity and critical thinking.

3. Results

The number of respondents was 47 people consisting of 30 people (63.8%) male teachers, and 17 people (36.2%) female teachers. The social media that is often used by teachers is WA. A total of 78.3% used WA as a medium of communication and interaction. Others, there are those who only use SMS, and there are teachers who can use other social media, besides WA, and SMS, namely FB, Twitter and Instagram. Whereas social media which the teachers find difficult to use is Twitter. The results of the study indicate that more than 80% of teachers have used existing applications on mobile phones to support learning. Learning applications used include: (1) finding information, and (2) sending assignments. While the use of mobile applications for evaluation of learning has not been used by teachers.

3.1. Learning methods

Learning methods used by teachers, that is discussions, questions and answers, assignments, presentations, and others. The results showed that the learning methods used by teachers: lectures 45.65%, assignments 15.72%, presentations 13.04%, discussions 10,87%, and combination between lecture, discussion, presentations, discussions, etc. Summarized in Figure 1.

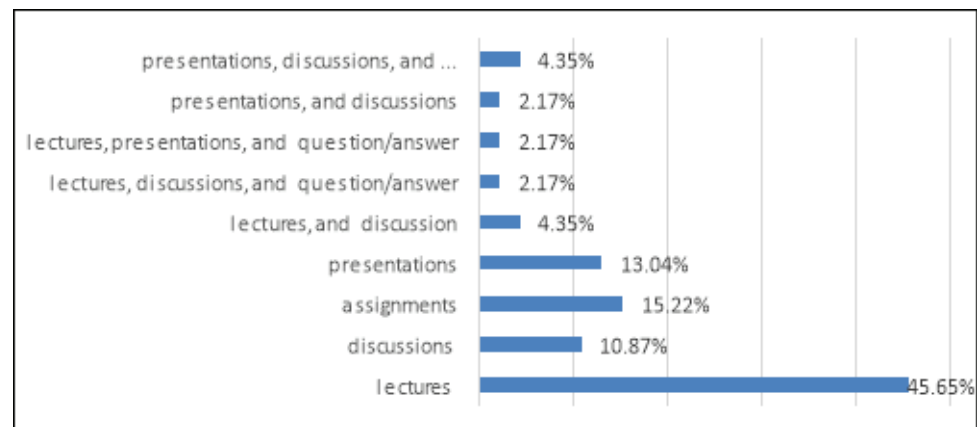


Figure 1: Learning methods used by teachers

3.2. Learning models

There are several learning models used by teachers, that is: Problem Based Learning (PBL) learning models, Project Based Learning (PjBL), Contextual Learning, Cooperative Learning, and others. The results showed that the learning model used by teachers: Contextual Learning 34.09%, PBL 20.45%, Cooperative Learning 18.18%, and PjBL 4.55%.

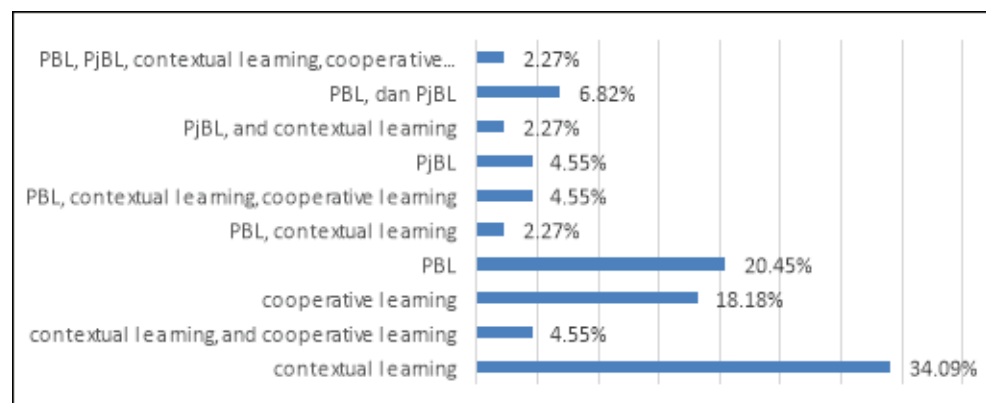


Figure 2: Learning model used by teachers

3.3. Critical Thinking

To improve students' critical thinking abilities; 27.91% give a case, and students are asked to solve problems by group discussion; 55.81% of the teachers stated that they gave questions that had a cognitive level of analysis, synthesis, and evaluation, and 2.33% of the teachers stated by presenting ideas, and 13.95% of the teachers stated by conveying ideas / ideas in written form.

3.4. Communication

To improving communication, as many as 70.21% of teachers give assignments to students to present the results of discussions, assignments. 19.5% of teachers give assignments to students for discussion, 8.51% of teachers give assignments to students to look for subject matter independently, and 2.13% of teachers give assignments to students to summarize the material.

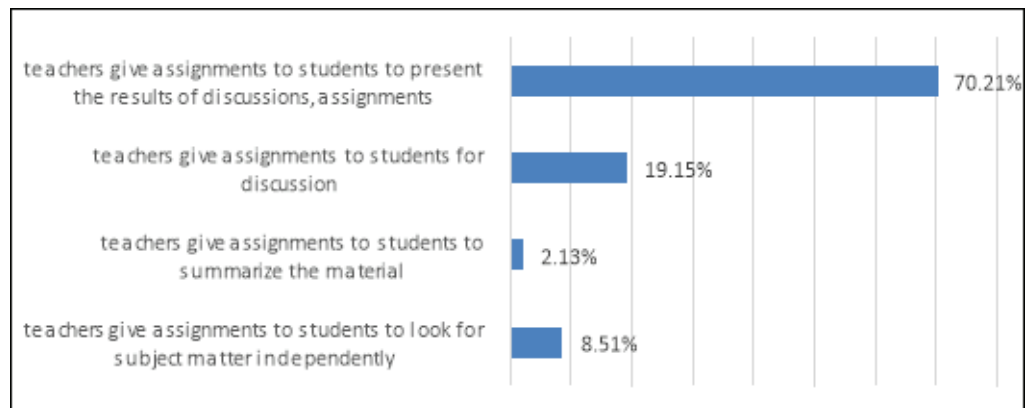


Figure 3: To Improve Communication

3.5. Collaboration

To increasing cooperation, the efforts made by teachers, namely: creating a discussion group on the choice of students, creating a discussion group on the choice of teachers, and giving tasks and responsibilities in each group. creating a discussion group on the choice of students, creating a discussion group on the choice of teachers, and giving tasks and responsibilities in each group. 25.53% of the teachers stated that they gave assignments and responsibilities in each group, 10.64% of the teachers stated that they formed a discussion group on the teacher's choice, and 4.26% said they would create a discussion group on the student's choice.

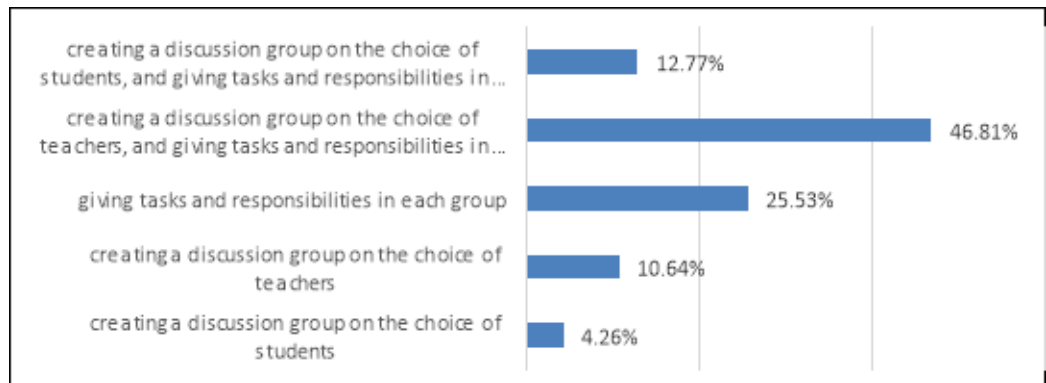


Figure 4: To improve Collaboration

3.6. Creativity

To improve student creativity, the efforts made by teachers, namely: 38.30% of teachers give freedom to students to find learning material from various sources (books, articles, etc), 8.51% of teachers give students to express opinions, and 6.38 % of teachers give students to answer questions or solve problems.

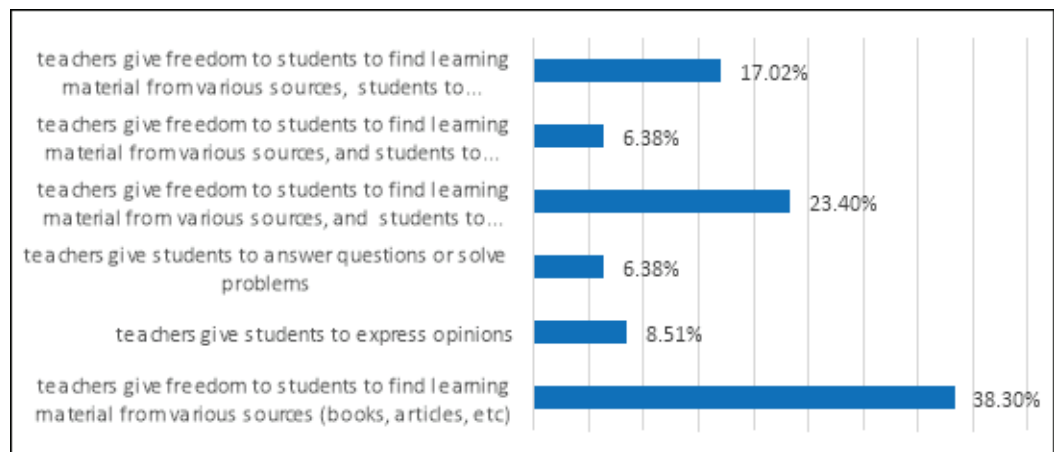


Figure 5: To Improve Creativity

4. Discussion

Based on the results of research on the analysis of teacher needs for the application of learning shows that there are several attempts that have been made by vocational teachers in applying 21st century learning to deal with millennial generation, although not yet optimal. Readiness of teachers in the use of technology is characterized by ownership and use of mobile phones in their daily life not only as a communication tool but also for learning. The media used in learning are also diverse and the learning

models used are quite varied. Because To effectively engage and teach millennial generation students, preservice teachers will help the educational system meet this requirement [3].

Creativity is one of the most discussed personal skills. Creative production of results is the target [4]. The notion is, often, discussed alongside the concepts of curiosity and imagination [5]; [6]; [7]), while [8], also associate it with playfulness. It is, further, related with the ability to innovate ([9]; [10]. In n this study, the efforts of the teacher were quite good, namely giving freedom to students to search for learning material from various sources (books, articles, etc.) giving openness to students to express opinions and this had an effect on students' communication skills and giving students freedom to answer problems or solve problems.

Communication skills are sometimes in combination with collaboration skills and, often, located in the globalized environment of the 21st century. Skilled and effective oral and written communication is the target [5]; [11] and [7]). Based on this study to improve communication skills, namely by assigning students to present the results of discussions, assignments, etc. and giving assignments to students to compile a summary as a way to improve students' abilities in writing [12] defined critical thinking in terms of a set of qualities and abilities including: 1. awareness of a set of interrelated critical questions; 2. ability to ask and answer critical questions at appropriate times; and the; 3. desire to actively use the critical questions'. In this study, the teacher to improve students' critical thinking skills by giving a case, then students are asked to solve problems with group discussion; give questions that refer to High Order Thinking Skills (HOTS) and students are asked to present. The efforts made by the teacher not only improve critical thinking but there are also elements of collaboration and communication.

Learning in collaboration is an educational approach to teaching and learning that involves groups of learners working together to solve a problem, complete a task, or create a product. In the collaborative learning (CL) environment, the learners are challenged both socially and emotionally as they listen to different perspectives and are required to articulate and defend their ideas. In so doing, the learners begin to create their own unique conceptual frameworks and not rely solely on an expert's or a text's framework. In a CL setting, learners have the opportunity to converse with peers, present and defend ideas, exchange diverse beliefs, question other conceptual frameworks, and are actively engaged [13]. In this study the teacher has implemented collaboration in learning through discussion groups both on student choices, creating discussion groups on teacher choices. But there are contradictions between the application and the models and methods used in learning. Based on the results of the study shows the

teacher uses the Contextual Learning model and lecture method. While the results of the study also show the teacher also applies learning 21. This means conceptually the teacher understands about 21st century learning, but mastery of models and methods must continue to be improved. Through training.

5. Conclusion

In a 21st century learning environment, digital electronic communication technology is the key factor. Teaching and learning have to center the innovative use of existing and emerging technologies. Two things are therefore necessary in building the much desired 21st century learning environment for our digital natives of the information age (21st century learners). First, providing the basic ICT infrastructure and facilities and getting teachers to use the facilities in teaching and learning. The second thing is getting the teachers to adopt the use 21st century teaching learning approaches and methods in their classroom practices. Teachers and technology are therefore the key role players in a 21st century learning environment.

21st century learning focuses on 4 C skills (collaboration, creativity, communication and critical thinking) that have been applied by the teacher in learning, although not yet optimal. For this reason, the primary need for teachers is training in efforts to increase knowledge and skills, especially in technology-based learning.

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