
Profile of Pre-Service Civic Teachers' TPACK (Technological Pedagogical and Content Knowledge) in Basic Teaching Skills Course

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Abstract

This study explains and describes pre-service Civic teachers' technological pedagogical content knowledge (TPACK) abilities. The method used in this research is descriptive qualitative. The subjects of this study were the civic pre-service teacher. The data collection instruments used were lesson plans, observation sheets, questionnaires, and interview sheets. Based on the research conducted, positive results were obtained. Students assume that through learning basic teaching skills, students' TPACK abilities increase. From this research, it can also be concluded that further research is needed to determine the factors that influence the TPACK ability of prospective teacher students.

Keywords: *TPACK; Pre-service teacher; Civic Education*

INTRODUCTION

A teacher is required to use innovative and creative learning models (Tanjung, 2019). By applying this innovative and creative learning model, it is hoped that teachers can create a learning atmosphere that makes it easier for students to transfer knowledge. In general, teacher center learning (TCL) is considered the most accessible learning model to use and apply in classroom learning (Yenni, 2017). Learning with the TCL pattern makes it easier for teachers to set material and time. So that the learning bill desired by the syllabus can be achieved, teachers can more easily make calculations about what material and when to do it.

In Civics lessons, many of the materials taught are abstract. Teachers need extra time to explain the material. It makes teachers reluctant to look for alternative learning models to provoke student activity. As a result, the teacher has great authority in managing the class. Finally, teachers get used to not planning the implementation of learning (Yenni, 2017). Though the lesson plan (RPP) is essential in learning. RPP is the beginning of determining the success of learning. Whether the planned learning objectives are met or not. The teacher's pedagogic ability can also be reflected in preparing lesson plans. They choose the suitable model, method, and strategy in teaching material.

To change the paradigm of teacher-centered learning and reduce the role of teachers in learning, new alternative learning models emerge. This learning model is better known as Student center learning (SCL). *Student center learning* is an understanding developed by education experts who adhere to constructivism (Anyanwu & Iwuamad, 2015). This understanding believes that students build their knowledge through their actions and experiences. They believe that the teacher only functions as a mediator and facilitator seeking knowledge. By using this SCL model, students will be more active. The role of the teacher, who was the only source of learning, will be shifted so that the teacher only becomes a facilitator, which will foster the student creativity and learning materials that adapt to the development of science and technology (Kurdi, 2009; Sahronih et al., 2019).

Recent research has focused on TPACK-based classroom teaching (Gusnidar et al., 2018; Pamuk et al., 2015; Purwaningsih & Yuliati, 2015; Schmidt et al., 2009; Sholihah et al., 2016; Srisawasdi, 2012; Suryawati et al., 2014). TPACK is defined as knowledge about the teacher's ability to use technology based on an analysis of the character of the material and an analysis of the pedagogical aspect (Drummond & Sweeney, 2016; Jaipal & Figg, 2010; Koehler et al., 2014; Kurt et al., 2014; Sholihah et al., 2016). TPACK consists of six knowledge components that make up TPACK. These constituent components are Technology Knowledge (TK), Content Knowledge (CK), Pedagogical Knowledge (PK), Pedagogical Content Knowledge (PCK), Technological Pedagogical Knowledge (TPK), and Technological Content Knowledge (TCK) (Koçoğlu, 2009; Koehler et al., 2017; Mishra & Koehler, 2006; Wu, 2013). The ability of a teacher when teaching is strongly influenced by the ability of the teacher's TPACK (Srisawasdi, 2012). This study aims to see the TPACK ability of prospective teacher students. The TPACK ability of prospective teachers is illustrated through the learning tools they make.

RESEARCH METHODS

The approach used is a descriptive qualitative approach. A *descriptive qualitative approach* is used in qualitative research, where the researcher describes the form of a description of the subject under study. The subjects in this study were prospective PPKn teacher students at PGRI Wiranegara University. Subjects are ten students who program Basic Teaching Skills courses. The instruments used in this study were the learning device assessment sheets used in assessing the lesson plans made by students, teaching assessment sheets in the form of observation sheets during teaching practice activities, questionnaires about knowledge and mastery of technology in learning. The instrument acts as a supporting instrument. The researcher himself acts as the main instrument. A researcher is the primary data source. The primary data was obtained through observations made by researchers, research sheets, and questionnaires given to research subjects. The questionnaire used in this data collection uses a qualitative approach to open and allow respondents to express their experiences during lectures. In qualitative research, the ability of researchers to interpret data is essential. The data analysis technique used is reducing data, presenting data, and drawing conclusions based on existing data.

RESULTS AND DISCUSSION

The results obtained in this study are based on 3 (three) assessment instruments. Some indicators are the benchmarks for the student TPACK assessment in each assessment. By looking at the TPACK abilities of pre-service civic teacher students, we can determine the readiness of students to teach. The TPACK ability of a prospective teacher can affect how prospective teachers will teach a Civics material (Srisawasdi, 2012). In the learning planning assessment instrument (RPP), there are eight aspects/assessment indicators. Each aspect is 1) clarity of learning objectives, 2) suitability of teaching materials and learning objectives, 3) organization of teaching materials 4) selection of sources/media, learning methods, and strategies 5) learning steps, 6) characteristics of the scientific approach, 7) the suitability of the assessment and learning objectives, and 8) the completeness of the assessment instrument. It is hoped that through these eight aspects, the pedagogic abilities of prospective teacher students will be reflected.

At the beginning of the lecture, pre-service teachers are given initial knowledge about innovative learning models and methods. Furthermore, prospective teacher students are given

the freedom to determine the material topic, methods and learning models used, and technology as a medium in the teaching and learning process. It is intended to see their TPACK capabilities.

Based on the results of the analysis of the lesson plans made by prospective teacher students, it was found that some students had been able to produce good lesson plans. Of the ten students, 0% are in the poor category, 40% are in the medium category, and 60% are in the high category. This category can be seen in Table 1. Below. The grouping of these categories is done by looking at the average score aspect of the existing assessment. Most students who fall into the Medium category do not include evaluation tools in the lesson plans. Whereas in learning, it is stated that the teacher gives assessments and homework to students. So that the course lecturers cannot see the compatibility between the learning objectives and the learning evaluation, so lecturers can assess whether the evaluation carried out by prospective teacher-students is following the indicators. The completeness must be included in the RPP (Yenni, 2017). The RPP assessment instrument also shows the ability of students to choose learning models and strategies based on the material to be taught. Based on the observations, it was found that most of the students have been able to choose the suitable learning model, and all students have used the SCL-oriented learning model.

Table 1. Results of Assessment of Learning Implementation Plans (RPP)

No.	Id	Category	Score
1	R1	Good	84
2	R2	Average	75
3	R3	Good	84
4	R4	Good	81
5	R5	Good	84
6	R6	Good	81
7	R7	Average	71
8	R8	Good	81
9	R9	Average	71
10	R10	Average	62

The findings of further research are based on the assessment of Teaching Practice. The assessment of learning practice consists of 27 aspects of assessment divided into 3 (three) activities. They are namely opening activities, learning core, and closing activities. Each activity describes what prospective teachers do during the teaching practice process. Guidelines in assessing the teaching practice of prospective teachers are based on the compatibility between lesson plans and teaching practice. Table 2. Shows the results of the analysis of the implementation of learning. It was found that around 60% of prospective teachers were in the Good criteria and had implemented learning according to the learning syntax listed in the lesson plans, 40% were in the Medium category, and 0% were in the less category. The factor that causes there are still moderate categories is the error of prospective teacher students in determining the learning method/model following the material to be taught.

Table 2. Results of Teaching Practice Assessment

No.	Id	Category	Score
1	R1	Good	85
2	R2	Good	86
3	R3	Good	83
4	R4	Good	88

5	R5	Good	81
6	R6	Good	81
7	R7	Average	76
8	R8	Average	78
9	R9	Average	79
10	R10	Average	61

Pre-service teachers in the good category apply according to what is written in the lesson plans they make. Errors in this category are caused more by the time of the implementation of the learning process caused by prospective teachers who are not used to teach. The time predictions made by prospective teacher students are not following the implementation in the field. In addition, teaching practice activities use peers as students in teaching practice. Pre-service teachers become less focused on the implementation of learning. In good category students, the form of mistakes was that there were steps in the RPP, but they were not implemented. The loss of this learning step is due to the time the learning implementation is not under what is planned in the lesson plan. Although steps are not implemented in the learning practice, they do not eliminate the essence of the learning model used so that it is not included in the less category.

In contrast to pre-service teachers who fall into the less category, the form of error used is more than 3 (three) errors. The beginning of the implementation of learning activities does not provide perception, motivation, or ability to start lacking lessons. Most of them omit some learning steps that can change the substance of the model used so that there is a difference between lesson plans and the practice of implementing learning—lacking in the mastery of the material. As a result, the mistakes made by these pre-service teachers make learning in the classroom finish faster than the planned time. Mistakes made are included in fatal errors.

PK, CK, and PCK components are included in the components of the TPACK for pre-service civic teachers (Sholihah et al., 2016). The assessment of the three components is based on an assessment of lesson plans and an assessment of teaching practice. In general, the assessment of these three components is quite good. However, what needs attention is the CK component. There are still pre-service teachers who have not mastered the material to be taught. As a result, it affects the PCK ability of pre-service teachers. The following assessment is based on mastery of technology in learning Civic, technological pedagogical content knowledge (TPACK).

The results of students for pre-service teachers, in general, show that teacher candidate students' understanding of technology is in a good category. Almost all student-teacher candidates can use computers and use office programs. Many civic pre-service teacher students who fall into this low category show that most students are not familiar with application programs. Previous studies showed similar results (Purwaningsih & Yuliati, 2015; Sholihah et al., 2016). The results of Suryawati et al.'s research also support this research. They state that teachers' ability related to technology still needs to be developed (Suryawati et al., 2014). The development of this technology is necessary given the rapid and rapid development of information technology. The following is presented in Table 3. The criteria for TPACK for a pre-service civic teacher.

Table 3. Technological Pedagogical Content Knowledge (TPACK) Assessment Results

No.	Id	Category	Score
1	R1	Average	33
2	R2	Average	40
3	R3	Average	37
4	R4	Average	37

5	R5	Average	40
6	R6	Average	40
7	R7	Poor	27
8	R8	Average	40
9	R9	Average	37
10	R10	Poor	27

The next category of assessment is TPACK, in this category, describes how the ability of prospective teacher students to integrate their knowledge of technology, pedagogy, and knowledge of physics in the learning process. Table 6. It shows that 80% of student-teacher candidates are in the medium category, and 20% are low.

CONCLUSION

From the data obtained, a general description of the TPACK abilities of students and teachers is obtained. There are eight pre-service teachers in the medium category and two students in the less category. Although none of the prospective teacher students were in a suitable category, the results obtained showed positive results. All prospective teacher students agree that, through the Civic Teaching and Learning Strategy course, students' TPACK abilities will increase. The most significant improvement in TPACK ability is in pedagogic ability and knowledge ability. In these two abilities, students have begun to choose a learning model according to the theme/material to be taught. Meanwhile, the technology capability shows low assessment results. This finding is related to the habit factor and the lack of supporting applications on Civic material that prospective teacher students understand.

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