

# DEVELOPING OF TPACK ASSESSMENT INSTRUMENT FOR TEACHER CANDIDATE'S STUDENTS IN CIVIL ENGINEERING AND PLANNING STUDY PROGRAM AT YOGYAKARTA STATE UNIVERSITY

by Amat Jaedun, Sutarto Hp., V. Lilik Hariyanto

## ABSTRACT

Teacher's pedagogic and professional competence are two competencies that greatly determine the success of the learning process in the classroom. Along with the rapid development of technology, these two competencies are also combined with technological capabilities so as to give birth to new domains of competence that must be owned by a teacher, known as Technological Pedagogical Content Knowledge (TPACK). This study aims to: (1) develop a valid TPACK assessment instrument for prospective teachers in the Construction and Property Engineering of Vocational High Schools; (2) developing a valid and reliable TPACK assessment instrument for prospective teachers in the Construction and Property Engineering of Vocational High Schools; (3) describe the profile of the TPACK ability of prospective teachers in the Construction and Property Engineering of Vocational High Schools who are the subject of the assessment.

This research will be planned to be carried out for two fiscal years. Research activities in the first year (2022), include: (1) instrument development, which includes the stages: determining the instrument construct, instrument preparation, expert validation, readability test; (2) instrument trials, both based on self-assessment and performance appraisal; and (3) measuring the TPACK ability profile of prospective teacher students. The test subjects consisted of students in semester 7 of the Civil Engineering and Planning Education study program, FT UNY, who were carrying out KKN-PK activities; and PK supervising teachers at SMK students. The data analysis technique used consisted of: analysis to calculate the Aiken's V coefficient, analysis of the results of the readability test, exploratory factor analysis, and descriptive analysis of the TPACK ability profile of prospective teacher students who were the subjects of the study.

The results of the study showed: (1) the TPACK assessment instrument for prospective teachers in the Construction and Property Engineering of Vocational High Schools had been composed, which consisted of a self-assessment-based survey instrument and a performance assessment instrument by PK supervising teachers in Vocational High Schools; (2) the developed TPACK assessment instrument is proven to be valid and reliable; (3) the average TPACK ability level of prospective teacher students in the Civil Engineering and Planning Education study program based on self-assessment is in the good category, with mastery levels ranging from 61 – 80%; (4) the average TPACK ability level of prospective teacher students in the Civil Engineering and Planning Education study program based on performance appraisal by PK supervisors at SMKs is in the very good category, with mastery levels ranging from 81 – 100%.

Kata Kunci: *Assessment, TPACK, Prospective Vocational High School Teachers*