

# COMPARATIVE STUDY ON TECHNOLOGICAL PEDAGOGICAL AND CONTENT KNOWLEDGE (TPACK) S1, PPG, AND S2 BIOLOGY EDUCATION PROGRAM

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## ABSTRACT

**Abstract.** Slamet Suyanto et al. Teacher competences according to Indonesian teacher and lecturer decree consist of four sets i.e. pedagogical competences, professional competences, personal competences, and social competences. The scheme is now changing into Pedagogical Knowledge (PK), Content Knowledge (CK), dan Technological Knowledge (TK). In the teaching and learning process, those competences interact each other to develop Pedagogical Content Knowledge (PCK), Technological Pedagogical Knowledge (TPK), dan Technological Content Knowledge (TCK) and finally they construct Technological Pedagogical and Content Knowledge (TPACK). It is assumed that the higher the teacher understands the TPACK, the better they teach and then the higher the students' achievements are. This research was aimed to measuring TK, PK, and CK of bachelor (S1), Teacher Professional Program (PPG SM3T), and magister student (S-2). The research design was a survey research. The subjects of the research were 70 bachelor (S1), 15 Teacher Professional Program (PPG), and magister 25 (S-2) students. The instrument to measure TK, PK, CK, TCK, TPK, DAN PCK, and TPACK was an objective test. The data were collected during their lessons. The data were analyzed by using Analysis of varian test and presented using descriptive statistic. The results indicated that the TK profile of S1, PPG, and S-2 was 70.57, 71.40, and 72.44 in 100 scale. The profile of was 68.73, 74.33, and 73.84. The profile of CK was 69.07, 69,67, and 72.40. It was concluded that there was a significant difference on CK between S1 and S2 students, but there was no difference on CK between S1 and PPG students. There was a significant difference on PK and PCK profile between S1 and PPG; but there was no difference on PK and PCK between S1 and S2 students. Therefore, PPG SM3T was developing more on PK and PCK, but not on CK.

Kata Kunci: *TPACK, content knowledge, pedagogical knowledge, technological knowledge, teacher, biology, PPG, SM3T*