

Perkembangan *Technological Pedagogical and Content Knowledge* (TPACK) Guru Biologi dalam Menghadapi Tuntutan Abad 21 melalui *Lesson Study*

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ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan perkembangan *Technological Pedagogical and Content Knowledge* (TPACK) guru biologi dalam menghadapi tuntutan abad 21 melalui *lesson study* dan mendeskripsikan peningkatan keterampilan abad 21 peserta didik selama kegiatan *lesson study*. Metode yang digunakan adalah metode deskriptif dengan subjek penelitian guru biologi anggota MGMP Kabupaten Bandung Barat. Teknik sampling yang digunakan adalah *convenience* sampling. Pengumpulan data dilakukan melalui pengisian *CoRe+Technology* dan *PaP-ErS*. Hasil penelitian menunjukkan terdapat perkembangan TPACK guru-guru MGMP biologi dalam menghadapi tuntutan abad 21 melalui *lesson study*. Kemampuan TPACK guru A mengalami perkembangan pada indikator identifikasi tujuan, keluasan dan kedalaman materi, identifikasi miskonsepsi, pertimbangan mengajar, urutan penyajian materi, pemanfaatan teknologi dan menyiasati ketiadaan teknologi. Kemampuan TPACK guru B mengalami perkembangan pada indikator keluasan dan kedalaman materi, identifikasi miskonsepsi dan pertimbangan mengajar. Kemampuan TPACK guru C mengalami perkembangan pada indikator identifikasi miskonsepsi, pertimbangan mengajar dan urutan penyajian materi. Perkembangan kemampuan TPACK guru biologi dalam menghadapi tuntutan abad 21 melalui *lesson study* cenderung meningkatkan kompetensi abad 21 peserta didik. Nilai rata-rata kompetensi peserta didik guru A pada pertemuan pertama yaitu 59,96 di kategori sedang, kemudian pada pertemuan kedua mengalami peningkatan dengan nilai rata-rata 73,60 di kategori baik. Nilai rata-rata kompetensi peserta didik guru B pada pertemuan pertama yaitu 68,18 di kategori baik, kemudian pada pertemuan kedua mengalami peningkatan dengan nilai rata-rata 74,41 walaupun masih di kategori baik. Nilai rata-rata kompetensi peserta didik guru C pada pertemuan pertama yaitu 69,96 di kategori baik, kemudian pada pertemuan kedua mengalami peningkatan dengan nilai rata-rata 80,09 di kategori sangat baik.

Kata kunci: TPACK, *Lesson Study*, Kompetensi Abad 21

Development of Technological Pedagogical and Content Knowledge (TPACK) for Biology Teachers in Facing 21st Century Demands through Lesson Study

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ABSTRACT

This study aims to describe the development of Technological Pedagogical and Content Knowledge (TPACK) biology teachers in dealing with the demands of the 21st century through lesson study and describe the improvement of 21st century skills of students during lesson study activities. The method used was descriptive method with the subject of biology teacher of MGMP West Bandung Regency. The sampling technique used was convenience sampling. Data collection was done through filling in CoRe + Technology and PaP-ErS. The results show that there was a development of TPACK biology MGMP teachers in facing the demands of the 21st century through lesson study. Teacher A's TPACK ability has developed in indicators of identification of goals, breadth and depth of material, identification of misconceptions, consideration of teaching, order of material presentation, use of technology and dealing with the absence of technology. Teacher B TPACK ability has developed in terms of indicators of breadth and depth of subject matter, identification of misconceptions and considerations of teaching. The ability of TPACK teacher C to develop on indicators of identification of misconception, consideration of teaching and the order of subject matter presentation. The development of the ability of TPACK biology teachers to deal with the demands of the 21st century through lesson study tends to improve the competencies of 21st century students. The average value of competency of teacher A students in the first meeting was 59.96 in the medium category, then in the second meeting it increased with an average value of 73.60 in the good category. The average competency value of teacher B students in the first meeting was 68.18 in the good category, then in the second meeting it increased with an average value of 74.41 even though it was still in the good category. The average competency value of teacher C students in the first meeting was 69.96 in the good category, then in the second meeting it increased with an average value of 80.09 in the very good category.

Keywords: TPACK, Lesson Study, 21st Century Competence