

**Kemampuan Guru Biologi Mengintegrasikan STEM Dalam *Pedagogical Content Knowledge (PCK)* dan Dampaknya Terhadap Kemampuan *Engineering Design Process* Siswa SMK Peternakan.**

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**ABSTRAK**

Penelitian ini bertujuan untuk menggambarkan kemampuan guru dalam mengintegrasikan Sains, Teknologi, Rekayasa dan Matematika kedalam *Pedagogical Content Knowledge (PCK)* dan dampaknya terhadap kemampuan *engineering design process* siswa SMK Peternakan. Penelitian ini merupakan studi kasus, partisipannya adalah guru biologi SMK yang mengajar kelas X. Kemampuan guru diukur dengan cara meminta guru membuat CoRe dan PaP-eRs pada materi daur ulang limbah yang dilanjutkan dengan wawancara semi terstruktur. Analisis data yang digunakan adalah teknik deskriptif kualitatif. Hasil analisis menunjukkan bahwa guru mengalami peningkatan kemampuan mengintegrasikan STEM kedalam PCK setelah dilakukan pelatihan dan lesson study dan dampak peningkatan kemampuan guru biologi tersebut terhadap kemampuan *engineering design process* siswa sangat beragam dari mulai level pemula sampai level berkembang serta belum terdapat siswa yang mencapai level lanjutan.

**Kata kunci :** STEM, PCK, *Engineering Design Process*

**The Ability of Biology Teacher to Integrate STEM into *Pedagogical Content Knowledge (PCK)* and Its Impacts to *Engineering Design Process Vocational Student Skills*.**

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**ABSTRAK**

This study aims to describe the ability of biology teacher in integrating Science, Technology, Engineering and Math (STEM) into *Pedagogical Content Knowledge (PCK)* and its impact to *Engineering Design Process Vocational Student Skills*. This study was case study, and the participant was a biology teacher who teach in Vocational High School. Teacher ability was measured by asking teacher to make CoRe and PaP-eRs on waste recycle substances followed by semi-structure interview. Data was analyzed with descriptive qualitative techniques. The analysis showed that teacher abilities in integrating STEM into PCK increases after workshop and lesson study were don. Beside that, the impact of these teacher abilities to engineering design process vocational students skills have variation from beginning designer to developing designer and there are no students yet in achieving informed designer.

**Keywords :** STEM, PCK, *Engineering Design Process*