

**PEMBELAJARAN BERDIFERENSIASI UNTUK Mendukung
KREATIVITAS, KEMAMPUAN LITERASI DAN NUMERASI SISWA
DALAM PROYEK STEM**

TESIS

diajukan sebagai salah satu syarat untuk memperoleh gelar Magister Pendidikan
pada Program Studi Pendidikan Ilmu Pengetahuan Alam



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2023**

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DALAM PROYEK STEM**

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Sebuah Tesis yang Diajukan untuk Memenuhi Salah Satu Syarat Memperoleh
Gelar Magister Pendidikan (M.Pd.) pada Program Studi Pendidikan IPA

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DALAM PROYEK STEM**

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PERNYATAAN

Dengan ini saya menyatakan bahwa tesis yang berjudul “Pembelajaran Berdiferensiasi untuk Mendukung Kreativitas, Kemampuan Literasi dan Numerasi Siswa dalam Proyek STEM” ini beserta seluruh isinya adalah benar-benar karya saya sendiri. Saya tidak melakukan penjiplakan atau pengutipan dengan cara-cara yang tidak sesuai dengan etika ilmu yang berlaku dalam masyarakat keilmuan. Atas pernyataan ini, saya siap menanggung resiko/sanksi apabila di kemudian hari ditemukan adanya pelanggaran etika keilmuan atau ada klaim dari pihak lain terhadap keaslian karya saya ini.

Bandung, Agustus 2023

Yang membuat pernyataan,

AYU YUANA

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Tesis ini mendeskripsikan penelitian dengan tujuan mengetahui gambaran pelaksanaan pembelajaran berdiferensiasi untuk mendukung kreativitas, kemampuan literasi dan numerasi siswa dalam proyek STEM. Penulis berharap dapat memberikan kontribusi dalam membelajarkan sains di SMP melalui pembelajaran berdiferensiasi terintegrasi STEM. Penulis menyadari bahwa dalam proses penyelesaian tesis ini masih banyak kekurangan dalam penyajian, baik penulisan, tata bahasa maupun dari segi isi karena keterbatasan pengetahuan dan kemampuan dari penulis. Oleh karena itu, penulis mengharapkan saran dan kritik yang membangun agar menjadi masukan bagi penulis dalam menghasilkan karya-karya di masa yang akan datang. Semoga tesis ini dapat bermanfaat bagi kita semua, khususnya bagi kemajuan dunia pendidikan.

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PEMBELAJARAN BERDIFERENSIASI UNTUK Mendukung KREATIVITAS, KEMAMPUAN LITERASI DAN NUMERASI SISWA DALAM PROYEK STEM

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pelaksanaan pembelajaran berdiferensiasi untuk mendukung kreativitas, kemampuan literasi dan numerasi siswa dalam proyek STEM. Metode penelitian yang digunakan adalah *mix method* dengan desain penelitian *sequential exploratory design*. Subjek dalam penelitian ini adalah 52 siswa kelas IX salah satu SMP Negeri di Kabupaten Tasikmalaya. Analisis kualitatif dilakukan dengan menggunakan lembar observasi yang diamati oleh tiga orang observer dan dilanjutkan dengan menganalisis tanggapan siswa terhadap pembelajaran berdiferensiasi dalam proyek STEM. Siswa yang belajar dengan pembelajaran berdiferensiasi dalam proyek STEM di kelas eksperimen dan siswa yang menerapkan proyek STEM tanpa pembelajaran berdiferensiasi di kelas kontrol masing-masing sebanyak 26 siswa. Pengumpulan data kuantitatif menggunakan instrumen LKPD dan rubrik kreativitas, soal kemampuan literasi baca tulis dan soal kemampuan numerasi. Hasil analisis kualitatif menunjukkan bahwa setiap observer menemukan kriteria pembelajaran berdiferensiasi yang diharapkan dalam proyek STEM. Hasil tanggapan siswa menunjukkan tanggapan positif terhadap pembelajaran berdiferensiasi dalam proyek STEM terutama dukungan terhadap gaya belajar dan minat dalam proses pembelajaran. Pembelajaran berdiferensiasi dalam proyek STEM tidak memberikan perbedaan hasil yang signifikan pada kreativitas dan kemampuan literasi jika dibandingkan dengan pembelajaran proyek STEM tanpa pembelajaran berdiferensiasi. Hal ini terlihat pada hasil uji *kruskal-wallis* pada kreativitas siswa sebesar *Asymp. Sig.* = 0,110 dan hasil uji *Mann-Whitney U* untuk kemampuan literasi siswa menunjukkan *Asymp.Sig. (2-tailed)* = 0,838. Berbeda pada analisis kemampuan numerasi siswa yang menunjukkan terdapat perbedaan yang signifikan pada siswa yang menerapkan pembelajaran berdiferensiasi dalam proyek STEM dibandingkan dengan siswa yang melakukan proyek STEM tanpa pembelajaran berdiferensiasi (*Mann-Whitney U* untuk kemampuan numerasi sebesar *Asymp.sig.2-tailed* = 0,00).

Kata kunci: Pembelajaran Berdiferensiasi, STEM, Kreativitas, Literasi, Numerasi

DIFFERENTIATED INSTRUCTION TO SUPPORT STUDENTS' CREATIVITY, LITERACY, AND NUMERACY SKILLS IN STEM PROJECTS

ABSTRACT

This research aims to analyze the implementation of differentiated learning to support students' creativity, literacy, and numeracy skills in STEM projects. The research method used is a mixed method with a sequential exploratory design. The subjects in this study were 52 ninth-grade students from one of the State Junior High Schools in Tasikmalaya Regency. Qualitative analysis was conducted using observation sheets observed by three observers and followed by analyzing students' responses to differentiated learning in STEM projects. Students who learned with differentiated learning in STEM projects in the experimental class and students who applied STEM projects without differentiated learning in the control class each consisted of 26 students. Quantitative data collection used worksheets and creativity rubrics, reading and writing literacy questions, and numeracy questions. The results of the qualitative analysis show that each observer found the expected criteria for differentiated learning in STEM projects. The students' responses showed a positive response to differentiated learning in STEM projects, especially in supporting learning styles and interest in the learning process. Differentiated learning in STEM projects did not provide a significant difference in creativity and literacy skills compared to STEM project learning without differentiated learning. This is evident in the Kruskal-Wallis test results for student creativity with Asymp. Sig. = 0.110 and the Mann-Whitney U test results for students' literacy skills show Asymp. Sig. (2-tailed) = 0.838. In contrast, the analysis of students' numeracy skills showed a significant difference in students who applied differentiated learning in STEM projects compared to students who did STEM projects without differentiated learning (Mann Whitney U test for numeracy skills with Asymp. Sig. 2-tailed = 0.00).

Keywords: Differentiated Instruction, STEM, Creativity, Literacy, Numeracy

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