

## ABSTRAK

# PENERAPAN KONSEP SCAFFOLDING DALAM PEMBELAJARAN DENGAN METODE EKSPERIMEN DAN PENGARUHNYA TERHADAP PEMAHAMAN FISIKA SISWA KELAS XI MIPA I MENGENAI EFEK DOPPLER DI SMA BOPKRI 2 YOGYAKARTA

Immanuel Anding

Universitas Sanata Dharma

Yogyakarta

2022

Penelitian ini bertujuan untuk (1) mengetahui pemahaman awal siswa mengenai Efek Doppler, (2) mengetahui profil Zone of Proximal Development (ZPD) siswa tentang Efek Doppler, (3) mengetahui pengaruh penerapan konsep scaffolding dalam pembelajaran terhadap pemahaman fisika siswa mengenai Efek Doppler dengan metode eksperimen.

Penelitian ini dilaksanakan pada bulan Maret-Mei 2022. Dengan subjek Penelitian adalah siswa kelas XI MIPA BOPKRI 2 Yogyakarta. Pengumpulan data menggunakan (1) *Pretest* (2) wawancara pendalaman *Pretest* (3) *Posttest* dan (4) wawancara pendalaman *Posttest*. Hasil dari *Pretest* dan wawancara pendalaman *Pretest* membantu peneliti untuk menentukan profil *Zone of Proximal Development* siswa.

Hasil penelitian menunjukkan bahwa ditemukannya profil ZPD siswa tentang Efek Doppler yang menjadi acuan peneliti dalam merancang pembelajaran dengan konsep *scaffolding*. Siswa mengalami peningkatan pemahaman mengenai Efek Doppler berdasarkan hasil *Posttest* dan wawancara pendalaman *Posttest* siswa. Peningkatan pemahaman juga ditunjukkan berdasarkan hasil analisis statistik dengan menggunakan SPSS. Berdasarkan hasil analisis *T-Test* untuk dua kelompok dependen diperoleh hasil  $t = -11.267$ .  $p = .000 < 0,05$ , maka hasilnya signifikan artinya bahwa penerapan konsep scaffolding dengan metode eksperimen dapat meningkatkan pemahaman fisika siswa.

Kata kunci: *Zone of Proximal Development (ZPD)*, *Scaffolding*, Teori Sosiokultural.

**ABSTRACT**

***THE APPLICATION OF THE SCAFFOLDING CONCEPT IN LEARNING WITH EXPERIMENTAL METHODS AND ITS INFLUENCE ON THE UNDERSTANDING OF PHYSICS OF CLASS XI MIPA 1 STUDENTS REGARDING THE DOPPLER EFFECT AT SMA BOPKRI 2 YOGYAKARTA***

**Immanuel Anding**

**Sanata Dharma University**

**Yogyakarta**

**2022**

*This study aims to (1) find out students' initial understanding of the Doppler Effect, (2) know the student's Zone of Proximal Development (ZPD) profile of the Doppler Effect, (3) find out the influence of the application of the concept of scaffolding in learning on students' physical understanding of the Doppler Effect by experimental methods.*

*This research was conducted in March-May 2022. With the subject of research are students of class XI MIPA BOPKRI 2 Yogyakarta. Data collection used (1) Pretest (2) Pretest deepening interviews (3) Posttest and (4) Posttest deepening interviews. Results from pretest and pretest deepening interviews help researchers to determine the profile of the student's Zone of Proximal Development.*

*The results showed that the finding of students' ZPD profiles on the Doppler Effect became a reference for researchers in designing learning with the concept of scaffolding. Students experience an increased understanding of the Doppler Effect based on Posttest results and student Posttest deepening interviews. An increase in understanding is also shown based on the results of statistical analysis using SPSS. Based on the results of the T-Test analysis for the two dependent groups obtained results  $t = -11,267$ .  $p = .000 < 0.05$ , then the results are significant, meaning that the application of the concept of scaffolding with experimental methods can improve students' understanding of physics.*

*Keywords: Zone Proximal Development, Scaffolding, Sociocultural theory.*