

## ABSTRAK

Penelitian ini dilatarbelakangi oleh adanya fakta bahwa kemampuan *spatial sense* di Indonesia masih tergolong rendah. Kemampuan ini dapat menunjang kemampuan dalam membayangkan, menelaah, dan menganalisis ruang. Pendekatan yang diharapkan dapat meningkatkan kemampuan *spatial sense* adalah pendekatan *problem based learning* berbantuan *3D SketchUp*. Berdasarkan alasan tersebut penelitian ini diberi judul “Implementasi Pendekatan *Problem Based Learning* Berbantuan *3D SketchUp* untuk Meningkatkan Kemampuan *Spatial Sense* Siswa SMA”. Penelitian ini bertujuan untuk mengetahui perbedaan peningkatan kemampuan *spatial sense* antara siswa SMA yang menggunakan pendekatan *problem based learning* berbantuan *3D SketchUp* dan siswa SMA yang menggunakan pendekatan konvensional. Penelitian ini juga bertujuan untuk mengetahui sikap siswa terhadap kegiatan pembelajaran matematika menggunakan pendekatan *problem based learning* berbantuan *3D SketchUp*. Penelitian ini dilakukan pada siswa kelas X di salah satu SMA Negeri di Kota Bandung. Pokok bahasan yang dijadikan bahan ajar penelitian adalah materi geometri ruang. Metode penelitian yang dipilih adalah kuasi eksperimen dengan teknik analisis data kuantitatif dan kualitatif. Instrumen yang digunakan adalah instrumen tes (*pretest* dan *posttest*) dan non tes (angket dan lembar observasi). Berdasarkan hasil penelitian, diperoleh kesimpulan bahwa peningkatan kemampuan *spatial sense* siswa SMA yang menggunakan pendekatan *problem based learning* berbantuan *3D SketchUp* lebih tinggi daripada kemampuan *spatial sense* siswa yang menggunakan pendekatan konvensional. Selain itu, sikap yang diberikan siswa terhadap kegiatan pembelajaran menggunakan pendekatan *problem based learning* berbantuan *3D SketchUp* adalah positif.

Kata kunci: *Problem based learning*, *3D SketchUp*, kemampuan *spatial sense*

## ABSTRACT

This research is based on the fact that Indonesia has a low spatial sense ability. These supports the ability to imagine, studying, and analyzing space. The approach that is expected to improve the ability of spatial sense is problem based learning approach with the help of 3D SketchUp. Based on these reasons, this research entitled “Implementation of Problem Based Learning Approach with the Help of 3D SketchUp to Improve Spatial Sense Ability of High School Students”. This research aims to determine the difference in improvement between spatial sense abilities of high school students using problem based learning approach with the help of 3D SketchUp and high school students using the conventional approach. This research also aims to determine students’ attitude towards mathematics learning activities using problem based learning approach with the help of 3D SketchUp. The research is performed in class X in one of high schools in Bandung. The subject that is used as the teaching materials is geometry of space. The research method is quasi experiment with quantitative and qualitative data analysis. The instrument used are test (pretest and posttest) and non-test (questionnaire and observation sheet). Based on the research results, it is concluded that spatial sense abilities of high school students using problem based learning approach with the help of 3D SketchUp is higher than high school students using the conventional approach. In addition, the students’ attitude towards learning activities using problem based learning with the help of 3D SketchUp is positive.

Keywords: Problem based learning, 3D SketchUp, spatial sense ability