

ABSTRAK

Fitri Winarti, 1212050062, 2025, “Peningkatan Kemampuan Berpikir Visualisasi Spasial Dan *Persistence* Matematis Siswa Melalui Pembelajaran *Peer Instruction Flipped* Berbantuan Video Animasi *Renderforest*”

Kemampuan visualisasi spasial dan *persistence* merupakan kompetensi esensial yang menentukan keberhasilan siswa dalam menguasai konsep-konsep matematika secara mendalam. Penerapan model pembelajaran yang tepat, termasuk integrasi teknologi, diyakini mampu mendorong peningkatan kedua kompetensi tersebut. Namun, di lapangan, banyak siswa masih mengalami kesulitan memvisualisasikan konsep secara mendalam dan kurang memiliki kegigihan, yang berdampak pada rendahnya capaian pembelajaran. Penelitian ini bertujuan untuk meningkatkan kemampuan visualisasi spasial dan *Persistence* siswa melalui pembelajaran *Peer Instruction Flipped* berbantuan video animasi *Renderforest*. Penelitian menggunakan metode *Quasi Experimental* dengan desain *Nonequivalent Control Group Design* pada siswa kelas X SMA Swasta di Kabupaten Bandung. Instrumen yang digunakan meliputi tes kemampuan visualisasi spasial, angket *Persistence*, dan lembar observasi pembelajaran. Hasil penelitian menunjukkan bahwa *Peer Instruction Flipped* berbantuan video animasi *Renderforest* ini efektif dalam meningkatkan kemampuan visualisasi spasial, namun tidak menunjukkan keefektifan yang signifikan terhadap kemampuan *Persistence matematis*. *Peer Instruction Flipped* berbantuan video animasi *Renderforest*, efektif mampu memfasilitasi proses berpikir mendalam, adaptif dalam soal non rutin, dan kolaboratif serta reflektif selama proses pembelajaran.

Kata kunci: Kemampuan berpikir visualisasi spasial, *Persistence*, *Peer Instruction Flipped*, video animasi *Renderforest*

ABSTRACT

Fitri Winarti, 1212050062, 2025. " Enhancing Students' Spatial Visualization Thinking Ability and Mathematical Persistence through Peer Instruction Flipped Learning Assisted by Renderforest Animated Videos"

Spatial visualization ability and persistence are essential competencies that determine students' success in mastering mathematical concepts deeply. The implementation of appropriate learning models, including technology integration, is believed to foster the improvement of these two competencies. However, in practice, many students still struggle to visualize concepts deeply and lack persistence, which negatively impacts their learning outcomes. This study aims to enhance students' spatial visualization and persistence through Peer Instruction Flipped learning assisted by Renderforest animated videos. The research employed a Quasi-Experimental method with a Nonequivalent Control Group Design on 10th-grade students at a private senior high school in Bandung Regency. The instruments used included a spatial visualization ability test, a persistence questionnaire, and learning observation sheets. The findings reveal that Peer Instruction Flipped assisted by Renderforest animated videos is effective in improving students' spatial visualization ability but does not show significant effectiveness in enhancing mathematical persistence. Nonetheless, this learning model effectively facilitates deep thinking, adaptability in solving non-routine problems, and encourages collaborative as well as reflective learning processes.

Keywords: Spatial visualization thinking ability, Peer Instruction Flipped, Persistence, Renderforest animated videos