

## ABSTRAK

**Angela Female Divina Amore, 221414014, 2026. Analisis Kemampuan Numerasi Siswa Kelas X Setelah Mengalami Pembelajaran Dengan Menggunakan *Problem-based Learning Flipped Classroom*. Skripsi. Program Studi Pendidikan Matematika. Universitas Sanata Dharma.**

Penelitian ini diawali dengan penggalian masalah pada materi perbandingan trigonometri, dan ditemukan berbagai permasalahan sebagai berikut: (1) siswa belum dapat menggambarkan konsep sudut elevasi dan depresi secara benar, (2) siswa kesulitan dalam membuat representasi visual yang sesuai dengan informasi soal, (3) siswa mengalami miskonsepsi dalam penggunaan perbandingan Trigonometri yang sesuai, (4) keterampilan prosedural siswa belum berkembang optimal, dan (5) siswa kurang teliti dalam menuliskan hasil perhitungan. Penelitian ini bertujuan untuk mendeskripsikan (1) bagaimana merencanakan dan mengimplementasikan proses pembelajaran dengan menggunakan model pembelajaran *Problem-based Learning Flipped Classroom* untuk membelajarkan materi Perbandingan Trigonometri bagi siswa kelas X, (2) bagaimana kemampuan numerasi siswa kelas X pada materi Perbandingan Trigonometri setelah mengikuti proses pembelajaran dengan model pembelajaran *Problem-based Learning Flipped Classroom*.

Penelitian ini merupakan penelitian kualitatif dengan subjek penelitiannya adalah siswa kelas X C SMA Stella Duce 2 Yogyakarta pada tahun ajaran 2025/2026. Metode pengumpulan data yang digunakan, yaitu: catatan lapangan, tes, dan wawancara, dengan instrumennya adalah tes tertulis, dan pedoman wawancara. Validasi data dilakukan dengan menggunakan triangulasi teknik, sedangkan proses analisis data mencakup mereduksi data, menyajikan data, dan menarik kesimpulan.

Berdasarkan hasil tes tertulis terhadap 35 siswa dapat disimpulkan bahwa kemampuan numerasi pada level memahami (*knowing*) telah tercapai dengan baik. Namun, kemampuan pada level menerapkan (*applying*), dan menalar (*reasoning*) masih perlu dikembangkan, khususnya kemampuan siswa dalam mengimplementasikan rencana penyelesaian masalah secara tepat. Hasil tes tertulis yang diperkuat dengan wawancara terhadap enam subjek juga menunjukkan bahwa semua subjek yang diwawancarai telah mencapai kemampuan *knowing*, sedangkan kemampuan *applying* dan *reasoning* masih perlu dikembangkan khususnya kemampuan subjek dalam menyusun dan melaksanakan rencana penyelesaian pada permasalahan kontekstual trigonometri.

**Kata Kunci:** kemampuan numerasi, *Problem-based Learning Flipped Classroom*, pembelajaran matematika, perbandingan trigonometri.

**ABSTRACT**

**Angela Female Divina Amore, 221414014, 2026. *An Analysis of Tenth Grade Students' Numeracy Skills After Experiencing Learning Through Problem-based Learning Flipped Classroom. Undergraduate Thesis. Mathematics Education Study Program. Sanata Dharma University.***

*This research began with an exploration of problems in the topic of trigonometric ratios. Several issues were identified: (1) students were unable to correctly represent the concepts of angles of elevation and depression, (2) students had difficulty creating visual representations that matched the information given in the problem, (3) students experienced misconceptions in using appropriate trigonometric ratios, (4) students' procedural skills had not developed optimally, and (5) students lacked accuracy in writing calculation results. This study aimed to describe (1) how to plan and implement the learning process using the Problem-based Learning Flipped Classroom model to teach trigonometric ratios to tenth grade students, and (2) the numeracy skills of tenth grade students on the topic of trigonometric ratios after participating in learning using the Problem-based Learning Flipped Classroom model.*

*This study employed a qualitative research design. The research subjects were students of class X C at Stella Duce 2 Senior High School Yogyakarta in the 2025/2026 academic year. The data collection methods used were field note, test, and interview, with the instruments consisting of a written test and an interview guideline. Data validation was conducted using technique triangulation, while the data analysis process included data reduction, data display, and drawing conclusions.*

*Based on the results of the written test administered to 35 students, it could be concluded that students' numeracy skills at the knowing level were achieved well. However, the abilities at the applying and reasoning levels still need to be developed, particularly students' ability to implement problem-solving plans appropriately. The written test results, supported by interviews with six selected subjects, also showed that all interviewed subjects had achieved the knowing level, while the applying and reasoning abilities still need improvement, especially in organizing and implementing problem-solving plans in contextual trigonometry problems.*

**Keywords:** *numeracy skills, Problem-based Learning Flipped Classroom, mathematics learning, trigonometric ratios.*