ABSTRAK

Larasati, Stephani Rangga. 2018.**Analisis Kemampuan Memodelkan Siswa Kelas XI SMA Pangudi Luhur Yogyakarta pada Pembelajaran Matematika Materi Program Linear dengan Menggunakan Pendekatan Pembelajaran Matematika Realistik (PMR).**

Berdasarkan hasil wawancara dengan guru dan tes yang dilakukan oleh peneliti pada siswa kelas XII di SMA Pangudi Luhur Yogyakarta, terdapat beberapa masalah terkait program linear, yaitu (1) siswa kesulitan dalam memodelkan masalah matematika ke dalam fungsi kendala dan objektif, (2) siswa terlalu terpaku dengan langkah pengerjaan yang diberikan guru, (3) siswa mengalami keputusasaan karena masalah program linear seringkali berupa kalimat panjang yang membuat siswa kebingungan. Penelitian ini bertujuan untuk (1) mendeskripsikan lintasan belajar dengan menggunakan pendekatan pembelajaran matematika realistik untuk membelajarkan materi program linear dengan menggunakan metode garis selidik bagi siswa kelas XI IPS di SMA Pangudi Luhur Yogyakarta, (2) mengetahui level kemampuan memodelkan siswa yang dilihat dari tes hasil belajar setelah pembelajaran matematika realistik. Jenis penelitian ini adalah penelitian desain. Subjek penelitian adalah 31 siswa kelas XI IPS 1 SMA Pangudi Luhur Yogyakarta. Data penelitian berupa transkrip video pembelajaran, transkrip wawancara, hasil kerja siswa selama pembelajaran, dan hasil tes. Data tersebut diklasifikasi berdasarkan jawaban-jawaban yang sejenis lalu dianalisis berdasarkan karakteristik pendekatan pembelajaran matematika realistik dan berdasarkan indikator kemampuan memodelkan. Pada penelitian ini dilakukan uji coba pembelajaran sebanyak 3 pertemuan dan 1 kali tes akhir dan dilakukan penelitian pembelajaran sebanyak 3 pertemuan dan 1 kali tes akhir.Hasil penelitian menunjukkan bahwa (1) karakteristik PMR yang muncul pada uji coba pertemuan pertama adalah “penggunaan konteks”, “penggunaan model”, “penggunaan kontribusi siswa”, dan “keterkaitan”, (2) karakteristik PMR yang muncul pada uji coba pertemuan kedua adalah “penggunaan konteks”, “penggunaan model”, “penggunaan kontribusi siswa”, dan “interaktivitas”, (3) karakteristik PMR yang muncul pada uji coba pertemuan ketiga adalah “penggunaan konteks”, “penggunaan kontribusi siswa”, “interaktivitas”, dan “keterkaitan”, (4) karakteristik PMR yang muncul pada penelitian pertemuan pertama adalah “penggunaan konteks”, “penggunaan model”, “penggunaan kontribusi siswa”, ‘interaktivitas”, dan “keterkaitan”, (5) karakteristik yang muncul pada penelitian pertemuan kedua adalah “penggunaan konteks”, “interaktivitas”, “penggunaan model”, “penggunaan kontribusi siswa”, dan “keterkaitan”, (6) karakteristik PMR yang muncul pada penelitian pertemuan ketiga adalah “penggunaan konteks”, “penggunaan kontribusi siswa”, “interaktivitas”, dan “keterkaitan”, (7) Dalam menyelesaikan soal tes nomor 1 pada saat uji coba, 70,96% siswa berada pada level situasional, 22,58% siswa berada pada level referensial, dan 6,45% siswa berada pada level formal.Dalam menyelesaikan soal tes nomor 2 pada saat uji coba, 93,59% siswa berada pada

level situasional dan 6,45% siswa berada pada level formal. Dalam menyelesaikan soal tes nomor 1 pada saat penelitian, 100% siswa berada pada level referensial. Dalam menyelesaikan soal tes nomor 2 pada saat penelitian, 93,54% siswa berada pada level referensial dan 6,45% siswa berada pada level formal.
Kata kunci : PMR, penelitian desain, program linear, garis selidik, kemampuan memodelkan

ABSTRACT

Larasati, Stephani Rangga (2018). The Modeling Ability Analysis Students' of XI Grade SMA Pangudi Luhur Yogyakarta in Topic Linear Programming Using Realistic Mathematic Education (RME).

Based on an interview and test conducted by researcher with a XII grade mathematic teacher and XII grade students', there were some problems related to linear programming in XII grade i.e. (1) students were unable to model mathematic problems instructural constraints and objective function, (2) students were treated to solve the problems with the steps given by teacher, (3) students' were unable to understand linear programming problems due to the problems were in long sentence that made them confused. This research aimed to (1) describe learning trajectory by using realistic mathematic education approach to the teaching of linear program with graphic method for the students' of XII grade in SMA Pangudi Luhur Yogyakarta, (2) to know the level of students' modeling ability based on final test after they followed the teaching learning using PMR approach. This kind of this research was design research. The research subjects were 31 students' grade XI of SMA Pangudi Luhur Yogyakarta. The research data were learning video transcription and test result. The video transcriptions were analyzed based on the characteristics of RME. The test results were classified based on the same answer and analyzed based on modeling ability indicator. In this research, there were 4 meetings for the learning trajectory try out and 1 meeting for the test. Furthermore, the results of this research obtained by doing the learning process as much as 4 meetings and 1 final test meeting. The results of the research showed that (1) PMR characteristic that was shown in first meeting try out learning were "using context", "using model", "using students' contributions", and "intertwinning", (2) PMR characteristic that was shown in second meeting try out learning were "using context", "using students' contributions", and "interactivity", (3) PMR characteristic that was shown in third meeting try out learning were "using context", "using model", "using students' contributions", "interactivity", and"intertwinning" (4) PMR characteristic that was shown in first meeting research learning were "using context", "using model", "using students' contributions", interactivity, and "intertwinning" (5)PMR characteristic that was shown in second meeting research learning were "using context", "using model", "using students' contributions", and "interactivity" (6) PMR characteristic that was shown in third meeting research learning were "using context","using students' contributions", interactivity, and "intertwinning", (7) in solving try out final test number 1, 70,96% students' were in situational level, 22,58% students' were in referential level, and 6,45% students' were in formal level, in solving try

out final test number 2, 93,59% students' were in situational level and 6,45% students' were in formal level, in solving research final test number 1, 100% students' were in referential level, and in solving research final test number 2, 93,54% students' were in referential level and 6,45% students' were in formal level.

Keywords : PMR, design research, linear programming, graphic, modeling ability