ABSTRACT

Yanti Widjiastuti, 2013, *Bilingual Learning-Teaching of Mathematics and Science Courses*. Yogyakarta: The Graduate Program of English Language Studies, Sanata Dharma University

Bilingual learning-teaching of mathematics and science courses ever became a phenomenon in Indonesia. The program practiced two languages in instruction especially on mathematics and science subjects. It was applied when *RSBI* was fully effect in 2006 to early 2013. In the Indonesian context, the languages used were Indonesian and English as the target language (L2). The learning-teaching process in the classroom challenged the mathematics and science teachers since they had to equip themselves to teach bilingualy.

This qualitative study was based on the question how mathematics and science teachers taught in bilingual context. The answer of the question was expected to explain how bilingual learning-teaching of mathematics and science courses looked like. The objective of the study was to describe and interpret the pattern of bilingual learning-teaching of mathematics and science courses.

The methods of data collection used interview, observation and documentation. The research participants were Mathematics and Science teachers and students at SMAN 1 Bantul. There were 6 illuminating participants. They were 4 teachers and 2 students. The four teachers were representative of Mathematics, Biology, Physics, and Chemistry teachers. The data were analyzed using the steps of grounded theory (open coding, axial coding, and selective coding). The data transcripts were coded and analyzed, and then a theory model was developed.

The result of data analysis showed different categories emerging from three instruments of data collection at the open coding phase. In the axial coding phase, six categories were determined. They were learning activities, learning resources, learning media, evaluation, language usage, learning methods, and learning goals. In the selective coding phase, learning activities category was determined as the core phenomena. Learning activities category as a central phenomenon has close relation to other categories. The significance of emergent categories was forming the pattern of bilingual learning-teaching of mathematics and science courses.

ABSTRAK

Yanti Widjiastuti, 2013, *Bilingual Learning-Teaching of Mathematics and Science Courses*. Program Pascasarjana, Kajian Bahasa Inggris, Universitas Sanata Dharma Yogyakarta.

Pembelajaran bilingual mata pelajaran MIPA pernah menjadi sebuah fenomena di Indonesia. Proses pembelajaran ini adalah pembelajaran dalam dua bahasa khususnya pada mata pelajaran Matematika dan IPA. Program ini diterapkan ketika RSBI diterapkan dari tahun 2006 sampai awal 2013. Dalam konteks Indonesia, bahasa yang digunakan adalah Bahasa Indonesia dan Bahasa Inggris sebagai bahasa target. Pembelajaran bilingual ini memberikan tantangan tersendiri bagi guru-guru MIPA karena mereka harus membekali diri untuk mengajar dalam dua bahasa (*bilingual*).

Penelitian kualitatif ini berdasarkan pada pertanyaan bagaimana guru-guru MIPA melaksanakan pembelajaran bilingual. Jawaban dari pertanyaan tersebut diharapkan dapat menjelaskan seperti apakah pembelajaran bilingual berbasis mata pelajaran. Tujuan penelitian ini yaitu menggambarkan dan menginterpretasikan pola pembelajaran bilingual berbasis mata pelajaran.

Metode pengumpulan data menggunakan wawancara, observasi, dan studi dokumen. Partisipan penelitian adalah guru-guru Matematika dan IPA dan juga siswa di SMAN 1 Bantul. Enam partisipan terpilih yang terdiri dari empat guru dan dua siswa. Keempat guru tersebut mewakili guru mata pelajaran matematika dan IPA. Analisis data dilakukan menggunakan tahapan dalam *grounded theory* melalui *open coding*, *axial coding*, dan *selective coding*. Transkrip data diberi kode dan dianalisa, dan selanjutnya sebuah model teori dikembangkan.

Hasil analisis data menunjukkan kategori-kategori yang berbeda dihasilkan dari tiga instrument pengumpulan data pada tahap *open coding*. Di tahap *axial coding*, enam kategori ditetapkan. Kategori-kategori tersebut adalah *learning activities*, *learning resource*, *learning media*, *evaluation*, *language usage*, *learning methods*, dan *learning goals*. Pada tahap *selective coding*, *learning activities* ditetapkan sebagai sentral fenomena (*central phenomenon*). *Learning activities category* berkaitan erat dengan kategori-kategori yang lain. Signifikansi dari kategori-kategori yang muncul yaitu membentuk suatu pola pembelajaran bilingual dari mata pelajaran MIPA.