ABSTRAK

M. NAWI. Pengaruh Strategi Pembelajaran dan Kemampuan Penalaran Formal Terhadap Hasil Belajar Matematika Siswa Sekolah Menengah Atas (Swasta) Al Ulum Medan. Tesis. Medan: Program Pasca Sarjana UNIMED, 2012

Penelitian ini bermaksud untuk mengetahui perbedaan hasil belajar matematika siswa SMA melalui penerapan dua strategi pembelajaran yang diperkirakan mampu memperlihatkan hasil belajar yang signifikan. Strategi pembelajaran yang diterapkan adalah strategi pembelajaran kontekstual (*Contextual Teaching Learning*) dan strategi pembelajaran langsung (*Direct Instruction*). Penelitian ini merupakan penelitian kuasi eksperimental dengan rancangan ”Analisis Faktorial 2x2” yang dilakukan di SMA Swasta Al Ulum Medan yang terdiri dari dua kelas. Data tentang profil kemampuan penalaran formal dianalisis dengan statistik deskriptif, sedangkan keunggulan komparatif strategi CTL dan DI terhadap hasil belajar matematika dianalisis dengan teknik analisis faktorial dua jalur.

Penelitian ini mnggunakan dua macam instrumen, yakni instrumen tes hasil belajar matematika dan instrumen tes kemampuan penalaran formal. Instrumen tes hasil belajar matematika menggunakan tes bentuk pilihan ganda dengan 5 pilihan jawaban (a,b,c,d, dan e) berjumlah 22 butir dan memiliki reliabilitas 0,891 menggunakan rumus alpha cronbach. Sedangkan untuk menjaring data kemampuan penalaran formal siswa digunakan te kemampuan penalaran formal sebanyak 10 butir yang diadaptasi dari Test of Logical Thingking yang dikembangkan oleh Tobin dan Capei dengan reliabilitas 0,75. Tes Kemampuan Penalaran Formal ini meliputi meliputi lima jenis penalaran, yakni proporsional, identifikasi variabel, korelasional, kombinatorial, dan probabilistik. Jumlah skor tiap siswa menunjukkan tahap perkembangan kognisinya yang dibedakan atas tiga tingkatan yakni tingkat operasional kongkrit (total score 0-1), tingkat transisi (total score 2-3), dan tingkat formal (total score 4-10).

Hasil analisis data menunjukkan, bahwa: (1) Secara umum, Terdapat 40,625% Siswa Kelas X SMA Swasta Al Ulum Medan memiliki kemampuan penalaran formal berada pada kualifikasi transisi, 50% berkualifikasi formal, serta 9,375% siswa dengan kualifikasi kongkrit; (2) Strategi CTL lebih unggul daripada Strategi DI; (3) Kemampuan Penalaran Formal berpengaruh terhadap hasil belajar matematika siswa; dan (4) Terdapat Interaksi Antara Kemampuan Penalaran Formal dan Strategi Pembelajaran Terhadap Hasil Belajar Matematika.

Berdasarkan temuan-temuan penelitian ini maka disarankan kepada para guru Matematika untuk menggunakan strategi CTL dalam proses pembelajaran guna meningkatkan hasil belajar matematika siswa.

Kata Kunci: Penalaran Formal, Contextual Teaching Learning, Direct Instruction

ABSTRACT

M. Nawi. The Effect of Instructional Strategy and Formal Reasoning Ability of Mathematics Student Learning Outcomes High School (Private) Al Ulum Medan. Thesis. Field: Graduate Program UNIMED, 2012

This study intends to determine the differences in mathematics learning outcomes through the implementation of two high school students learning strategies are expected to show significant learning outcomes. The applied instructional strategy is Contextual Teaching Learning and instructional strategies Direct Instruction. This study is a quasi-experimental research design "2x2 Factorial Analysis" conducted in Private High School Al Ulum field consisting of two classes. Data on formal reasoning ability profiles were analyzed with descriptive statistics, while the comparative advantage of CTL and DI strategies for learning math results were analyzed by factorial analysis techniques of two paths.

This study use two kinds of instruments, the instrument test results to learn mathematics and formal reasoning ability test instruments. Instrument test results to learn math using a multiple choice test with five answer choices (a, b, c, d, and e) totaled 22 points and had reliability of 0,891 using by formula cronbach alpha. As for the data capture formal reasoning ability of students to use the formal reasoning ability by 10 items adapted from the Test of Logical Thinking, developed by Tobin and Capei and had reliability of 0,75. The formal reasoning ability includes five types of reasoning, ie, proportional, identifying variables, correlational, combinatorial, and probabilistic. The number of scores for each student show much cognitive developmental stages that are differentiated on three levels of the concrete operational level (total score 0-1), the transition rate (total score 2-3), and the level of formal education (total score 4-10).

The results of data analysis showed that: (1) In general, there were 40.625% Class X student private school Al Ulum Medan have reasoning abilities are in transition qualification, 50% of formal qualification, and 9.375% of students have concrete qualification, (2) CTL strategy is superior to strategy DI, (3) The Effect Formal Reasoning Ability on students'mathematics learning outcomes, and (4) there is interaction between Formal Reasoning Ability and Instructional Strategies for Mathematics Learning Outcomes.

Based on the findings of this study it is advisable to Mathematics teachers to use contextual teaching and learning strategies in the learning process in order to improve students' mathematics learning outcomes.

Keywords: Formal Reasoning, Contextual Teaching Learning, Direct Instruction