

understanding with the level of problem solving. The results indicate that FBD lessons can help to enhance the level of problem solving in Forces.

SOLUTION OF SPEECH-INTELLECTUAL TASKS AS METHOD OF BILINGUAL MATHEMATICS TEACHING

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In this study we discuss preliminary results of using intellectual-speech tasks as an innovative method of bilingual mathematics instruction by means of Russian and Tatar languages in pre-service mathematics teacher preparation program at the Kazan Federal University. Preparation of a teacher with bilingual subject-matter competence is one of the priority tasks, facing the education system of Tatarstan, because there are 410 bilingual (Russian-Tatar) schools now. At the University the process of preparing future teachers of mathematics for bilingual schools is divided into 3 stages. At each stage the certain level of bilingualism is formed. Levels of bilingualism in the field of mathematical discourse are defined from considering of speech as a tool for forming a thought by means of native and second languages. (Salekhova, 2007; Tuktamyshev, 2000). Based on the idea of Vygotsky (1934) that thought is accomplished in the word we propose to develop thinking on a second language with the help of speech-intellectual tasks. Different types of speech-intellectual tasks are used: conceptual and lexical, the purely mathematical and situational thinking tasks. Conceptual-lexical tasks provide an opportunity to introduce new math concepts and their semantization. Mathematical tasks that are solved in the second language, make it possible to program on a specific vocabulary a number of mental operations, and by virtue of question-and-response system's solution of problems to retrace every step of the student, as the trajectory of the search are generally known. Situational mental problems are provided for the implementation of the programmed operations of thought in some situations

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THE TEACHING MODEL TO ENHANCE MATHEMATICAL PROBLEM SOLVING ABILITY IN JUNIOR HIGH SCHOOL TEACHER

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This study tries out the teaching model of Mathematical Problem Solving (MPS) in Junior High School. The research design is in the form of experiment with pretest and posttest. Subject of study sample is 18 mathematic teachers in Junior High School in Jambi. The selection of teacher study is done by inviting their participation voluntarily. Teacher sample is selected in such manner that represents all class grades (I, II, and III) which come from Junior High School. Treatment is given in stages, that are the researcher teaches MPS to teacher sample, then they teach MPS to students in their class. Treatment to teacher is given as much as 7 meetings by about 3 hour for each meeting. Treatment for student is implemented to teacher as sample subject in accord with each schedule and with the same material for each same class grade. This study involve some kind of instruments, that is test for teacher as pretest and posttest, Likert model opinion scale and questionnaire about MPS for teacher, and 6 set of MPS test for student, each of 2 test sets (pretest and posttest) for student of class I, II, and III. Instrument for teacher is made by researcher, and this study for student is made by teacher and is reexamined together with researcher. From result study, it is found that teacher's MPS learning outcome is categorized good, whereas student's MPS learning outcome is still categorized deficient, and teacher opinion about MPS tend to be positive. Further, it is found that MPS teaching give learning gain which is meaningful for class III students. Although teachers suggest their agreement toward MPS teaching in Junior High School, and there is score increment, teacher opinion about MPS is that the treatment do not give meaningful influence to positivity degree of teacher opinion toward MPS.