TITLE : Comparison of Learning Achievement Mathematic Entitled “Linear Equation System” of grade 9 with the 4MAT learning management and the STAD cooperative learning technique.

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**ABSTRACT**

 The purposes of this research were to : 1) develop the 4MAT learning management and STAD cooperative learning technique on mathematic subject of Linear Equation System for grade 9 students to have a required efficiency of 80/80, 2) study the effective index of the students who study mathematic with the 4MAT learning management and the STAD cooperative learning technique on Linear Equation System., 3) compare the learning achievement on the Linear Equation System of the before learning and after learning with the 4MAT learning management and STAD cooperative learning technique., 4) compare the learning achievement on the Linear Equation System of the students who studied with the 4MAT learning management and STAD cooperative learning technique., 5) examine students’ satisfaction learning with the 4MAT learning management and STAD cooperative learning technique.The sampling group of 50 in grade 9 students at Bantapong School Nongbuarawae District, Chaiyaphum primary educational service area office 3. in the first semester of 2015, obtained by using the Cluster Random sampling. The instruments used in the study were : 14 plans of the 4MAT learning management plan and STAD cooperative learning technique plan. , a 30 – item 4 – choice achievement test with discriminating power (B) ranging 0.27 – 0.73 and a reliabilily ( ) of 0.90 , and a 15 – item on satisfaction with the 4MAT learning management and STAD cooperative learning technique. The statistic used in the stud were percentang, mean, standard deviation, and t-test (dependent and independent samples)

 The research results were as follows

 1. The developed less plans using the 4MAT learning management and STAD cooperative learning technique entitled “Linear Equation System”, had effectively of 88.19/87.95 and 87.62/82.63. respectively

 2. The effective indices of the lesson plans using the 4MAT learning management and STAD cooperative learning technique were 0.8004 and 0.7106, showing that the students progressed their learning at 80.04 percent and 71.06 percent, respectively.

 3. The students who learned using the 4MAT learning management and STAD cooperative learning technique, showed gains in learning achievement mathematic Linear Equation System from after learning higher than before learning at the .05 level of singnificance.

 4. The students who learning using the 4MAT learning management showed Linear Equation System’s after learning achievement had higher than the students who learning using the STAD cooperative learning at the .05 level of singnificance.

 5. The students’ satisfaction to the mathematic Linear Equation System with the 4MAT learning management and STAD cooperative learning technique as whole at a high level.