่: อร์ด้บดขั้งอยจดัดมีคริงบาร์ตรบร์ ยายใ**บกรก**ษศีติเซรนี้เซียงมีผ่านดีบร

## 3970823327: MAJOR SCIENCE EDUCATION

KEY WORD: LEARNING SCIENCE ACHIEVEMENT/COOPERATIVE LEARNING

METHOD/TEAMS-GAMES-TOURNAMENT WITH FORMATIVE TESTING

NITAYA CHAREONNIVESNUKOOL: EFFECTS OF USING TEAMS-GAMES-TOURNAMENT

COOPERATIVE LEARNING METHOD WITH FORMATIVE TESTING ON SCIENCE

LEARNING ACHIEVEMENT OF MATHAYOM SUKSA THREE STUDENTS

THESIS ADVISOR: ASSIST. PROF. PIMPAN DACHAKUPT, Ph.D. 180 pp.

ISBN 974-639-437-1.

This study a was quasi-experimental research. The purpose of the study was to compare science learning achievement of mathayom suksa three students between the groups using teams-games-tournament cooperative learning method with and without formative testing. The samples were two groups of mathayom suksa three students of Chaengron Wittaya School in Bangkok with 40 students in each group. One group was the experimental group using teams-games-tournament cooperative learning method with formative testing. The other was the control group using the same learning method without formative testing. The research instrument was a science learning achievement test. The reliability of the science learning achievement test was 0.93, the difficulty levels were 0.2-0.7 and the discriminative levels were 0.22-0.92. The collected data were analyzed by means of percentage, arithmetic mean, standard deviation and t-test.

The research finding was summarized as follow:

The science learning achievement of mathayom suksa three students using teams-games-tournament cooperative learning method with formative testing was higher than science learning achievement of students using the same learning method without formative testing at the .05 level of significance.

ภาควิชา มัธยมศึกษา
สาขาวิชา การศึกษาวิทยาศาสตร์
ปีการศึกษา <sup>2541</sup>

ลายมือชื่อนิสิต ลายมือชื่ออาจารย์ที่ปรึกษา