

**APPLICATION OF FIVE-STAGE CONCEPTUAL TEACHING
MODEL BY UTILIZING *CMAPTOOLS* TO ANALYZE
CONCEPTUAL CHANGE AND COGNITIVE LEARNING
OUTCOMES ON LIGHT AND OPTICS TOPIC**

RESEARCH PAPER

*Submitted as requirement to obtain degree of Sarjana Pendidikan
in International Program on Science Education study program*



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**INTERNATIONAL PROGRAM ON SCIENCE EDUCATION
FACULTY OF MATHEMATICS AND SCIENCE EDUCATION
INDONESIA UNIVERSITY OF EDUCATION
BANDUNG
2014**

**Application of Five-Stage Conceptual Teaching Model by Utilizing
CmapTools to Analyze Conceptual Change and Cognitive Learning
Outcomes on Light and Optics Topic**

Oleh
Muhammad Rifqi Rofiuddin

Sebuah skripsi yang
diajukan untuk memenuhi salah satu syarat memperoleh gelar Sarjana pada Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam

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Universitas Pendidikan Indonesia
Agustus 2014

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SHEET OF LEGITIMATION

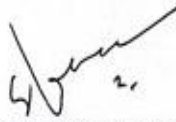
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