

KELANI, RAZACKI RAPHAEL E. D., Ph.D., May 2009

Teaching
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A PROFESSIONAL DEVELOPMENT STUDY OF TECHNOLOGY EDUCATION IN
SECONDARY SCIENCE TEACHING IN BENIN: ISSUES OF TEACHER CHANGE AND
SELF-EFFICACY BELIEFS (210 pp.)

Co-Directors of Dissertation: Kenneth H. Cushner, Ed.D.
Claudia Khourey-Bowers, Ph.D.

This study has two purposes. The practical purpose of the study was to provide Benin middle school science teachers with an effective technology education professional development (TEPD) program which granted teachers with content knowledge in technology education (TE), PCK in TE, design hands-on models in TE, and design rubrics assessing students' works. The research purpose of the study was to explore teachers' TE content knowledge and PCK, changes in teachers' self-efficacy beliefs in teaching the TE portion of the curriculum, and teachers' perceptions of their TEPD experience after participating in the program.

Four sessions of the TEPD program were carried out with two groups of teachers ($N = 23$ & 28). A mixed methods research design was utilized to collect data. Pre-experimental one-group pretest-posttest research design was used to collect quantitative data. Two instruments, the technology education teacher self-efficacy beliefs instrument (TETEBI) and the TE Awareness instrument, were designed. The qualitative research design employed a case study with participating teachers' after-session journals and after-session evaluation, classroom observations, teachers' and students' interviews.

Overall results of the study revealed that the TEPD program impacted positively participating teachers. Salient results indicated that (1) the TEPD program was effective;

(2) although quantitative analysis was inconclusive, through documents analysis, teachers' self-efficacy beliefs were enhanced after participating in the program; (3) teachers did acquire TE content knowledge and PCK; (4) teachers were effectively teaching the TE lessons integrated in the science curriculum; and (5) teachers expressed positive perceptions about the program and acknowledged its soundness, relevancy and effectiveness. Other characteristics of effective PD have been founded such as trainers' expertise and consideration of cultural and contextual issues of the trainees. Interpretations of the results led to ten educational implications that could improve TE teaching in secondary school settings in Benin, as well as in other developing countries with similar features. Finally, five recommendations were made for further investigations.