การพัฒนารูปแบบเครือข่ายการเรียนรู้สำหรับการอนุรักษ์พลังงาน (DEVELOPMENT OF A LEARNING NETWORK MODEL FOR ENERGY CONSERVATION)

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บทคัดย่อ

การวิจัยครั้งนี้มีวัตถุประสงค์เพื่อศึกษาการพัฒนารูปแบบเครือข่ายการเรียนรู้สำหรับการอนุรักษ์พลังงาน เพื่อเป็นต้นแบบสำหรับการอนุรักษ์พลังงาน

ผลของการวิจัยนี้มีข้อเสนอแนะที่จะนำไปปรับใช้ในการพัฒนาการอนุรักษ์พลังงานในเขตอื่นๆของกรุงเทพฯ เพื่อให้เกิดประโยชน์สูงสุด รองรับยุคสู่สุส่าตค.
DEVELOPMENT OF A LEARNING NETWORK MODEL FOR ENERGY CONSERVATION

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Ed. D. (ENVIRONMENTAL EDUCATION)

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ABSTRACT

The objective of this research was to develop a learning network model for the establishment of energy conservation in an urban community.

The population consisted of the community leaders of 50 districts in Bangkok Metropolis Area. The sample group, 91 community leaders of Bang Sue District in Bangkok Metropolis was selected by purposive sampling technique based on the set criteria. These included willingness, time, devotion, participation, and cooperation to the network learning development process, acting as trainer, and sharing their knowledge received from the training course individually and group activity. In order to develop a learning network model, it needed to investigate the training needs, and develop the training course content, and it was implemented according to the invented concept Multi-level Management Linkage (MML) with ‘Training of Trainer’ (TOT) process integrated with Appreciate-Influence-Control (AIC), then it was evaluated by the invented PAMIE technique.

Results were as follows:

1. The participants in TOT for three levels from MML had posttest mean scores higher than pretest mean scores at highly statistically significant level of 0.01.
2. The AIC process results illustrated that participants were able to operate as trainers and facilitators for further training course level. Moreover, they developed project action plan for environment and energy conservation according to the shared vision obtained through brain storming at each training level. Brain storming included SWOT (Strength-Weakness-Opportunity-Threat) analysis based on project operation methods of Who, Whom, What, When, Where, Why, and How (6W1H).
3. Three Dimensional Evaluation (TDE) was used for evaluation of the participation in training courses and Four Dimensional Evaluation (FDE) or Round Dimensional Evaluation (RDE) was employed for qualifying trainees to be able to perform as trainers and facilitators. The results showed that all participants passed the 50% requirement, based on TDE and FDE.
4. Participatory Performance, Assessment, Monitoring, Evaluation, and Impact (PAMEI) technique was used as the tool for the ultimate phase of evaluation of participants in the three levels as trainers for energy conservation. Some participants joined public minded activities, such as community knowledge giving, school training, and public knowledge giving. The highest electricity reduction achieved was 95%, and the highest pipe water reduction was 80%.
5. The learning network was established and the administrative committee was elected after the training process was used for evaluation. Some 55 participants were qualified as trainers and educators, and 36 participants were qualified as facilitators and educators.

Recommendations for further research: the prototype of a learning network model that should be implemented in other districts in the Bangkok Metropolis in order to encourage communities to minimize energy consumption and maximize benefits of energy utilization. Moreover this learning model can be adapted for implementation with other learning networks, such as environment and natural resources. in order to improve environment quality.

KEY WORDS: DEVELOPMENT / LEARNING NETWORK MODEL / ENERGY CONSERVATION

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