Preeda Samngamya 2014: Development of Synchronous Web-based Training Model Using Streaming Media Technology Based on the Constructivist Theory to Enhance Trainees' Functional Competency. Doctor of Education (Educational Technology), Major Field: Educational Technology, Department of Educational Technology. Thesis Advisor: Assistant Professor Sasichaai Tanamai, Ph.D. 406 pages.

The purposes of this research were to: 1) develop a synchronous web-based training model using streaming media technology based on the constructivist theory to enhance trainees' functional competency; 2) create the synchronous web-based training model using streaming media technology which was improved for quality; 3) study the output of functional competency by using the synchronous web-based training model with streaming media technology, and 4) study the trainees' attitude towards training based on the training model through the web constructed by researcher. The research sample was selected by purposive sampling of 30 trainees. The research instruments were the synchronous web-based training course using streaming media technology based on the constructivist theory and the trainees' functional competency evaluation form. The data analyses were conducted through mean, standard deviation, and t-test.

Results of the research were shown as follows : 1) The model of synchronous web-based training model using streaming media technology based on the constructivist theory to enhance trainees' functional competency is called ACTION Model, which consists of six steps: (1) Analysis, (2) Coaching, (3) Training, (4) Implementation, (5) Optimizing, and (6) Nurturing. 2) The quality of the synchronous web-based training model evaluated by experts was at the highest level with an average score of 4.72. 3) The web-based training results showed that trainees have increased functional competency relatively at a high level, with the learning achievement test scores higher than the pre-test scores at the significance level of .01, effectiveness index scores at 0.59, average practical skills and personal characteristic of attributes scores at 4.38 and 4.42, respectively. Moreover, 4) The trainees' attitude towards using the synchronous web-based training model has an average 4.41 found at a high level.

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