Thesis Title	Construction of a Microcomputer Package for Educational Measurement and Evaluation
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Abstract

The purposes of this study were 1) to construct a microcomputer package for data analysis in educational measurement and evaluation such as item analysis, finding efficiency of tools, transforming raw score to standard score and grading 2) to verify the efficiencies of the package such as the validity and the reliability of calculation and the comfortable use of the program.

The program was written in Turbo Pascal version 7.0 and was separated to 9 subprograms. There were subprogram communicated users (EVANA.PAS), subprogram used for item analysis (ANAL2000.PAS), subprogram used for finding efficiency of tools (RELI2000.PAS), subprogram used for grading (GRAD2000.PAS) and subprograms used for other utilities (PMATH.PAS, PSCREEN.PAS, PUTIL.PAS, JUNGTBL.PAS)

EVANA.PAS was the main program used. The rest was used when there were calculation or printing report. This program could run on the 16 bits or 32 bits microcomputer either color or monochrome monitor which had 25 lines display of graphic card or Thai card . The program could display in Thai and used only one disk drive.

The program could show menus to be selected to work, could select menu by sending high light to desired menu. When press enter, it would show another menu as pull down menu. The data used with this program was text file, the users could also use other program to create data such as rajvithee word, cu-writer or other text editor.

The program could be used for item analysis which was two types for norm referenced test. They were Chung Teh Fan and simple item analysis. Three types for criterion referenced test which were sensitivity index, B-index and Rasch Model. The program could find the efficiencies of tools, the reliability such as the split-half method, the internal consistency method, the reliability of criterion referenced test, reliability of observer, index of concurrent (IOC), test discrimination, score transforming to percentile normalized T-score normalized Z-score and could grade such as grading by defined criterion referenced test, by normalized T-score, by Douglas method, by Stuit method, by using mean and standard derivation and by using median and quartile.

There were three areas the researcher verified the efficiencies of the program. They were the reliability of the program which meaned the program calculated the same value when using the same data, the validity which meaned that the program calculated correctly as the statistic formula and the facility of using program. It was found out that the program provided faclities for using.