



“Effectiveness of e-Software (using MS-excel) for Analysis of Significance of Difference between Two Means (T-Test)”

Dr. Prakash K. Badiger

Assistant Professor, Department of Education, Karnataka State Akkamahadevi Women's University, Vijayapura

Corresponding Author- Dr. Prakash K. Badiger

Email- drprakashkb@kswu.ac.in

Abstract:

This paper is about user-friendly, flexible data analysis e-software by which a researcher can easily put his raw data and find the results. This is possible with the simple MS-Office applications. In the light of the objectives which are meant for this study are achieved through the use of statistical technique in terms of the percentage analysis of results and also interpreted with reference to the selected variables. The e-software (using MS- excel) is more effective than the manual method of calculating t-value. The study is also helpful to understand the various dimensions of data analysis using t-test. It encourages self-guided data analysis process.

Key words: e-software, MS- excel, Development, Internal validation, External Validation and Flid absorption capacity.etc

Introduction:

In the research process, data analysis is an integral part. The main purpose of data analysis is to provide effective and efficient meaning for a given data. Now day's the manual data analysis process is hard and time consuming process. To overcome by this difficulty the only possible way is ICT integration. In another context, due to globalization, marketing and advancement in the education research field many more data analysis software's are evolved. In this modern era we find greater development in the field of educational data analysis software's. But, the softwares available in the market are highly commercialized. There is no scope for flexibility for researchers, teacher and students.

The available data analysis software's like SPSS are required much more training and guidance. Hence it is evident that, there is urgent need of user-friendly, flexible data analysis softwares by which a researcher can easily put his raw data and find the results. This is possible with the simple MS-Office applications. Hence by keeping all this contexts researcher has undertaken the present study.

Statement of the Problem:

The researcher has undertaken the study entitled “Effectiveness of e-software

(using MS-excel) for analysis of significance of difference between two means (t-test)”.

Objectives of the Study:

The following three major objectives were designed by the researcher for the study;

1. To develop e-software for analysis of significance of difference between two means (t-test).
2. To validate the developed e-software.
3. To find out the effectiveness of e-software in terms of its user friendliness, usability, flexibility and acceptance by research scholars.

Hypothesis of the Study:

1. The e-software is effective in terms of its user friendliness, flexibility and applicability by male and female students.
2. The e-software is effective in terms of its user friendliness, flexibility and applicability by rural and urban students.

Operational Definition of the Terms Used:

E- software:

It is windows based plat form where we can access, edit and browse the data for the purpose of analysis of data.

Limitations of Study:

The following limitations were stetted by the researcher to the smooth conduct of research

work undertaken.

1. This study is limited to the Ms-office applications.
2. This study is limited to research scholars of DOE, KSAWU Vijayapura.

Design of the Study:

Method Used:

For the present study researcher was used the New Product Development (NPD) design. This software development and validation process was done as follows;

1. Development of e-software
2. Internal validation of e-software
3. External validation of e-software
4. Field absorption capacity

Phase- 1: Development of E-Software:

During this first phase, the researcher was intensively depended on the computer software specialists for developing the software. With reference to the needs and software references, researcher was made a systematic plan for designing the development of the e-software. The process involved following sequential steps:

1. User requirement specification (URS)
2. Software requirements specification (SRS)

3. Design Specification (DS) or Outline of Software.

Phase -2: Internal Validation Of E-Software:

In this phase, the internal validation of e-software was done against software architects, educational experts' and research scholars so as to find out the errors and required necessities in modifying the content and software. The software was validated with the following plan;

Installation Qualification (IQ):

For using e- software it's essential to install Mozilla Fire Fox with default and M.S. Access 2007 version, M.s Publisher, Adobe.

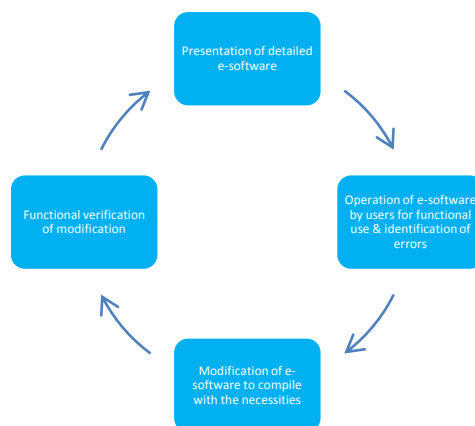
Admin comfort testing with Computer science faculties:

e- Software testing done under computer science faculties hands on experience and collected their feedbacks about admin comfort.

Labs try out with research scholars for user friendly and comfort level:

Lab-try out conducted with research scholars to find the user friendly and comfort level of software.

Detail of internal validation process:



Phase- 3: External Validation of E-Software:

During this Phase the researcher was focused on the External validation of e-software. For checking external validity researcher followed the following steps;

A) Development Of Reaction Scale :

This study requires a tool to collect the opinions regarding effectiveness of developed e-software and its applications in data analysis process as dependent variable that affect the study. For this purpose she used a self-prepared tool that is a reaction scale. This reaction scale is mainly intended to measure the factors user

friendliness, usability, flexibility and acceptance of the e-software. Related to these factors the items were designed and are used collectively. This reaction scale contains totally 15 statements. Which are rated in four point ratings namely Strongly Agree (SA), Agree (A), Strongly Disagree (SDA) and Disagree (DA).

B) Experimentation :

• Experimental Design:

In this study experimental design that is parallel group design was adopted for the smooth conduct of experiment.

• **Experimental treatment:**

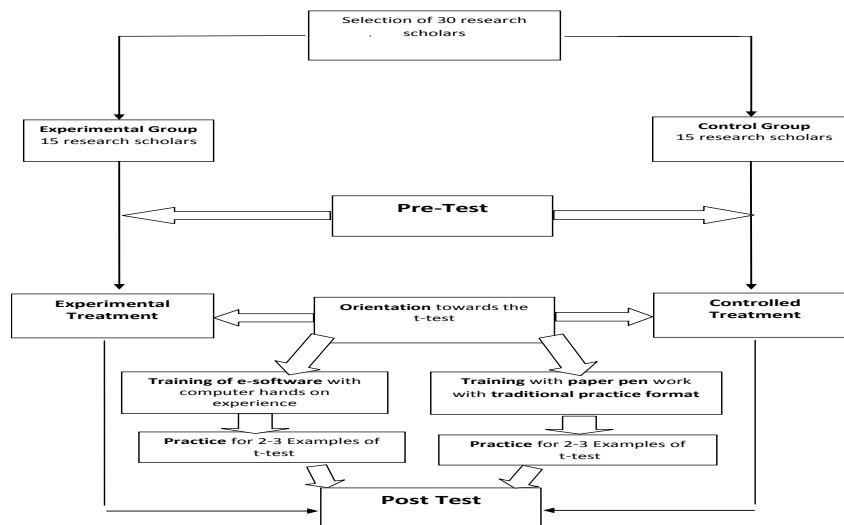
Population for experiment:

The research scholars of the Department of Education, Karnataka State Akkamahadevi Women's University, Vijayapura were target population.

Sample:

Research scholars with specified quality as in population were identified and required for their interest to participate in use of the software. Among the interested 30 research scholars were the samples for the study. The study is designed with the purposive sampling based validation.

Detail of the experimental procedure is as follows;



Phase- 4: Field Absorption Capacity

After experimentation the researcher is interested to conduct field absorption capacity of the e-Software. For this purpose researcher administered tool already prepared and orientation to the research scholars

Administration of tools:

Later the researcher presented the e-software material demonstration to the research scholars. The presentation was followed by the discussion. The reaction scale prepared for the purpose was administered and data was collected.

Data Analysis:

In the light of the objectives which are meant for this study are achieved through the use of statistical technique in terms of the percentage analysis of results and also interpreted with reference to the selected variables.

Major Findings of the Study:

The major findings of the study were enlisted below by the researcher:

1. The e-software (that is using MS- excel) is more effective than the manual method of calculating t-value.
2. The e-software is effective in terms of its user friendliness, flexibility and applicability by the research scholars with respect to gender.

3. The e-software is effective in terms of its user friendliness, flexibility and applicability by the research scholars with respect to gender.

Educational Implications:

The following are some of the educational implications which we can think of;

1. The study provided e-Software package to be used for analysis of data that is t-test.
2. Study also helpful to understand the various dimensions of data analysis using t-test.
3. It encourages self-guided data analysis process.

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