AN INVESTIGATION IN TO THE LEVELOF SPREAD SHEET SKILLS AMONG TEACHER EDUCATORS IN THANJAVUR DISTRICT

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ABSTRACT

A survey was conducted to study the level of spread sheet skills among teacher educators in Thanjavur District. Normative survey method was adopted for the study. 125 teacher educators were taken as a sample for the present study. The tool was constructed and validated by the researcher. The tool consists of 11 items with five point scale. The scoring procedure as follows, namely strongly agree-5, agree-4, undecided-3, disagree-2 and strongly disagree-1. The reliability of the tool was found to be 0.697 by using test- retest method. The result revealed that the teacher educators possess high level of spread sheet skills. Male teacher educators and the teacher educators who completed computer course have shown significant difference in the spread sheet skills than their counterpart.

KEY WORDS: Spread Sheet Skills, Teacher Educators

INTRODUCTION

In the fast changing world, does our teacher educator possess the necessary skills and knowledge to integrate technology in to their teacher education program? (Nortan & Sprague, 2002-2003), in most of the cases the answer is No. So they have to develop technological skills through self-learning, professional development, attending workshop and technology proficient mentor. Teacher educators, teachers and student teachers must be aware of various skills which are used for day to day applications. So curriculum in teacher education program should be adopt and dealt the basics of computer and its application in class room practices.

Spreadsheet program consists of table of values placed in both rows and columns; each value is related with one another. A spreadsheet is an electronic sheet largely used in the business, companies, industries and educational institutions to store and retrieve the information, and manipulate it and to derive meaningful solutions. The spreadsheet is divided in to two sections namely alphabetic columns (horizontal) and numeric rows (Vertical). Microsoft Excel (MS XL) is one of the most famous spreadsheet program /software.

The applications of mathematics and statistics are used in the spreadsheet programs. Spreadsheet skills permit the students to store, organize, calculate, and analyze the data. Today the spreadsheet programs are used in higher studies and work place to complete their work and project in a smarter way. Teachers should have been well-versed in the Spreadsheet skills for the reasons, to prepare lesson plan, to do calculation, to analyze large amount of data, to compare the set of data, to draw graphs, to draw graph in different pattern, to bring meaningful solution from the raw data, to prepare progress report, to complete the project or research work. Teachers, students and researchers are eagerly using spreadsheet programs in their regular activities. It is flexible, familiar and easy to use by all the users. Many research studies shows that using the spreadsheet program enhance critical thinking skills and also develops computer literacy. Spreadsheet program are used especially in the field of management, accounts and finance.

NEED AND SIGNIFICANCE OF THE STUDY

Education system has changed drastically, and there is a shift from traditional teaching methods to digitized pedagogical approaches through modern electronic and technical devices; Technology enhanced class room provides ample opportunity to interact with teachers, peer group and experts in the concern field. It provides multitude of teaching learning resources such as, computer, laptop, tablet, mobile phone, etc. than the text book. Technology supports the learner to fulfill their individual needs and learn at their own pace. Integrating technology in to class room is an effective way to connect the students in active way of learning; hence learner plays an active role in class room practices. Now- a- days all the academic and administrative activities (From enrolment to Publishing the results) held with the assistance of electronic gadgets, such as computer, laptop, mobile phone, tablet and its applications. According to New Education Policy, the computer literacy is considered as mandatory pre-requisite 21st century skills for an effective teacher educator. The policy recommendation is clearly evident that technology should be integrated with pedagogy. The advancement of science and technology result in numerous modern electronic gadgets and tools that find its wide application in the field of education. The new generation learners and kids are willing to learn via modern electronic gadgets, which play important role in learning process, so educational technology should be integrated with future curriculum. Therefore the instilling of spreadsheet skills of teachers educator is unavoidable in the present scenario. Hence, the study is a needful one in the present context.

REVIEW OF LITERATURE

Chang Boon Lee et.al. (2018) examined the spread sheet skills are important? The objectives of the study are to find out general and specific importance of spread sheet skills and also to determine the knowledge of spread sheet skills for new accountants. The findings of the study indicate that, aspiring accountants should include 'Lookup and Pivot Table' as part of their portfolio of spreadsheet skills. They insists that, provide useful knowledge for accountants, employers, and educators in aiding their communications regarding spreadsheets proficiency.

Sam K Medlin et.al. (2017) sensitized the importance of spreadsheet skills for college graduates to seek a job. A study was directed at four-year university students to identify Excel skill sets that were determined as necessary by employers of the university's current students, advisory boards, recruiters, and other relevant parties. The findings of the study recommended that the college student's need for Excel based analytical skills is prevalent in businesses and profession.

Engerman Jason et.al. **(2014)** examined the effectiveness of Excel spreadsheets in a high school algebra class. Students in the experiment group performed well than the control group on a post lesson assessment. The student responses, teacher observations involving Excel spreadsheet exposed that it operated as a mind tool, which formed the users' mental models more similar to the tool itself. The engagement with the spreadsheet tool allowed students to easily replicate its functionality in problem solving task for experimental group, the control group students knew the limited strategies to solve the problems. The knowledge of Excel spreadsheets allows the students to identify manipulation of their problem spaces during the discovering solutions phase of problem solving. The spreadsheet skills also help the learner to get deeper knowledge in algebraic; content can be transferred to somewhere else.

Rafiuddin Ahmed (2008) highlight the use of computers and Microsoft Excel spreadsheet program as a means to reflect on, and to strengthen prior learning, for financial accounting, managerial accounting and finance of financial modeling subject. Data were collected from the undergraduate student's samples for the three years (2003-2005) via formal feedback systems, Student Feedback on Subjects (SFS), and archived course materials. Data were analyzed by using

the pattern matching approach (Yin, 2003) in order to bring generalizations about the effectiveness of spreadsheet software usage as a pedagogical and educational tool. The findings of the study show that spreadsheet centered teaching and learning improve the learner's efficiency and also improve computer literacy. Spreadsheet application skills help to learn effectively in the areas of management accounting and finance. The students with few years of work experience perform well than the counterpart especially in the area of accounting and finance. The utilization of spreadsheet based modeling subject make teaching learning process more effective than the traditional chalk and talk teaching environment.

OBJECTIVES OF THE STUDY
1. To find out the level of spreadsheet skills among the teacher educators.
2. To find out the significant differences between the spreadsheet skills of teacher educators with respect to Gender, Locality, Teaching experience and Completion of computer course.

HYPOTHESES OF THE STUDY
1. The level of spreadsheet skills among the teacher educator is moderate.
2. There is no significant difference between the spreadsheet skills among the teacher educators with respect to Gender, Locality, Teaching experience and Completion of computer course.
3.

METHOD USED FOR THE STUDY
Normative survey method was adopted for the present study, which describes the existing situations.

SAMPLE AND SAMPLING TECHNIQUES
A sample is smaller, manageable version of the large population. One hundred and twenty five teacher educators were chosen as a sample for the present study who is working in and around the Thanjavur District by using simple random sampling. These teacher educators were chosen from eight college of education, out of eight colleges of education, one is from government sector and remaining seven from private sectors.

TOOL USED FOR THE STUDY
The tool was constructed and validated by the researcher with the assistance of subject experts and colleagues. It consists of 11 items with five point scale such as strongly agree, agree, undecided, disagree and strongly disagree. The teacher educators were asked to response the questionnaire and wherever doubts rose, these doubts were clarified by the researcher. The scoring procedure as follows, 5 for strongly agree, 4 for agree, 3 for undecided, 2 for disagree and 1 for strongly disagree. The reliability of the tool was found to be 0.697 by using test- retest method.

DATA COLLECTION
Data collection is one of important process in research. The researcher were approached the Principals of eight college of education in and around Thanjavur District in order to collect the relevant data; out of these eight college of education, one is from government sector and remaining seven from private sectors. The purpose of the study was clearly explained to the sample and instructed to answer all the questions without any psychological threat. Suppose, if the sample were unable to comprehend the question, adequate assistance was given by the researcher.

STATISTICAL TECHNIQUES USED FOR THE STUDY

The collected data were analyzed statistically by using SPSS package. Measures of central tendency (Mean, median and mode) and independent't'- test is used for the present study. Independent t-test is used to compare the means of two unrelated groups of samples.

RESULT ANALYSIS OF THE STUDY

The collected data were analyzed statistically by using SPSS (16.0) and the results were presented in the Table 1 and 2.
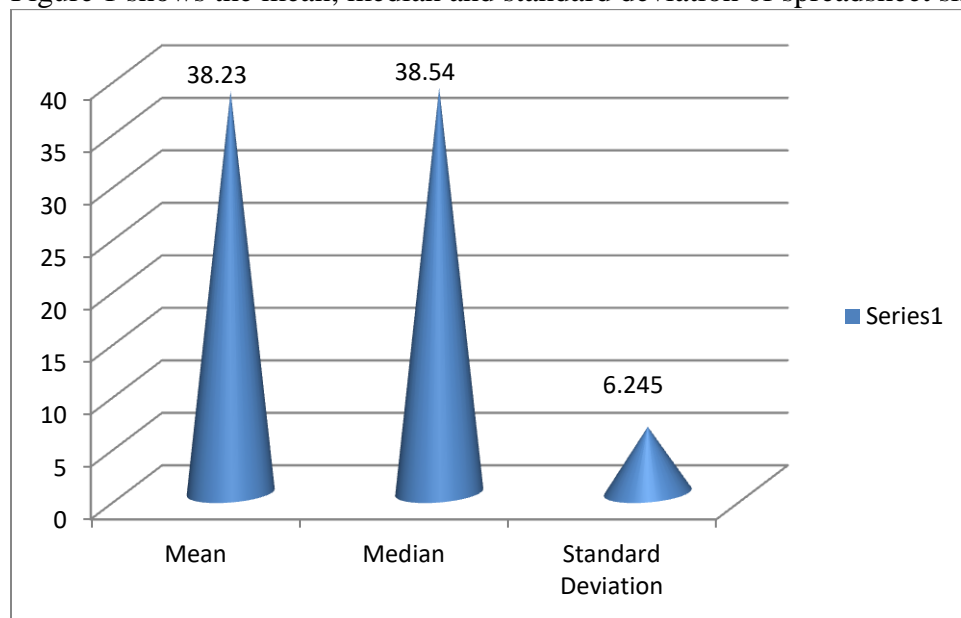
TABLE - 1

Table 1 shows the mean, median and standard deviation of spreadsheet skills of teacher educators.

N	Mean	Median	Standard Deviation	Level
125	38.23	38.54	6.245	High

FIGURE-1

Figure 1 shows the mean, median and standard deviation of spreadsheet skills among teacher educators.

Since the mean value of spreadsheet skills among the teacher educators is 38.23, median value is 38.54, and standard deviation is 6.245. It is inferred that the mean value 38.23 falls under the category, high level (mean value 37 to 55) of spreadsheet skills. Therefore, it is concluded that the level of spreadsheet skills among the teacher educator is high. Hence, the stated hypothesis is rejected.

TABLE - 2

Table 2 shows that mean, standard deviation, "t" value of spread sheet skills among teacher educators with respect to gender, locality, teaching experience and completion of computer course.

Variables	Sub Variables	N	Mean	Standard Deviation	"t" test	Level of Significance
Gender	Male	57	39.74	6.341	2.675	S
	Female	68	36.72	6.219		
Locality	Rural	71	38.41	6.249	0.319	NS
	Urban	54	38.05	6.241		

Teaching experience	Less than 5 years	64	38.77	6.290	0.967	NS
	More than 5 years	61	37.69	6.200		
Completion of computer course	Yes	56	39.78	6.351	2.478	S
	No	69	36.68	6.139		

It is revealed from the table 2, there is a significant difference exists in the level of spread sheet skills among teacher educators with respect to gender and completion of computer course. On the other hand, there is no significant difference in the level of spread sheet skills among teacher educators with respect to locality and teaching experience.

MAJOR FINDINGS
1. The teacher educators possess high level of spreadsheet skills.
2. Male teacher educators and the teacher educators who completed computer course have shown significant difference in spread sheet skills than their counterpart.
3. There is no significant difference in the level of spread sheet skills among teacher educators with respect to locality and teaching experience.

DISCUSSION
Male teacher educators may use spread sheet skills frequently than the female teacher educators for feeding the data, analysis the data and research process. In the same way, those who completed computer course may know about spread sheet skills and its applications; this may enhance their spread sheet skills than their counterpart. Rafiuddin Ahmed (2008) reported that spreadsheet improves teaching and learning, improves computer literacy and helps in the area of accounts and finance.

RECOMMENDATIONS
1. The Teacher educators and teachers should update their technological and pedagogical knowledge and skills through attending conferences, seminars and workshops at national and international level.
2. The department or college of education may provide On Duty (OD) or incentive or stipend to attend seminars, conferences and workshop, especially technology oriented program for teacher educators.
3. The management may insist the teachers/ teacher educators should use the technology for class room practices and other professional development.

DELIMITATIONS
1. This study is confined to 125 teacher educators from Colleges of Education situated in Thanjavur district alone.
2. The following back ground variables alone subjected for the present study, namely Gender, Locality, Teaching experience and Completion of computer course.
3. This study is purely quantitative in nature; therefore all the behavioral traits may not be covered.

CONCLUSION

According to James Kwak (2013), "Microsoft excel (Spreadsheet) is one of the greatest, most powerful, most important software applications of all time." Of course spread sheet skill is mandatory for teachers and teacher educators, in order to save the data, analyze the same and derive meaningful conclusions. Application of spread sheet is used in the field of finance, business, management and research. If we mastery in spread sheet skills, we are able to calculation, to analyze large amount of data with less effort, to compare the data, to draw the graph, to prepare progress card, to bring meaningful solution from the data, to complete the research or project in right time.

BIBLIOGRAPHY

Ahmed, R. (2008). Spreadsheet software as a teaching and learning tool: perspectives from an undergraduate financial modelling subject.

Baker William M.(2013). Empirically Assessing the Importance of Computer Skills, *Journal of Education for Business*, v88 n6 p345-351.

Best, J. W., & Kahn, J. V. (2016). *Research in education*. Pearson Education India.

Engerman, J., Rusek, M., & Clariana, R. (2014). Excel Spreadsheets for Algebra: Improving Mental Modeling for Problem Solving. *Journal of Computers in Mathematics and Science Teaching*, *33*(4), 409-427.

Garrett Henry, E. (1926). *Statistics in psychology and education*. Vakils Feffer And Simons Ltd; Bombay.

https://eric.ed.gov/?q=spreadsheet+skills&id=EJ1024492

http://jitm.ubalt.edu/XXIX-3/article4.pdf

https://medium.com/grid-spreadsheets-run-the-world/the-20-best-spreadsheet-quotes-bff6cde138ec

https://serc.carleton.edu/sp/library/spreadsheets/index.html

Jeyaraj and Ramnath (2018), Techno Pedagogical Skills among secondary level teacher educators, Unpublished Ph.D. Thesis, Alagappa University, Karaikudi, Tamil Nadu, India.

John W. Best and James V. Kahn (2012). Research in education, 10th Edition, PHI Learning Private Limited, New Delhi.

Lee, C. B., Tang, H., Sam, K. M., & Xiong, G. (2018). Spreadsheet Proficiency: Which Spreadsheet Skills Are Important?. *Journal of Information Technology Management*, *29*(3), 35.

S. K., Medlin, D., & Ellington, V. B. (2017). Microsoft Excel®: is it an important job skill for college graduates?. *Information Systems Education Journal*, *15*(3), 55.

Turner, L. (2005). Technology Skills Every Educator Should Have. *The Journal*.