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A study on the computer knowledge among B.Ed., students

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Abstract
In order to be successful in academic programs and careers, it is essential that university students possess improved computer skills. There are a lot of factors producing wide variations in the computer skill levels of college students, such as the courses they completed at high school and college, their academic major, their work experience, and their personal interest in computers and computing. There is little agreement on what skill level was necessary for success in introductory and advanced coursework or on the types of computer skills necessary to obtain and maintain employment after graduation. Researches suggest that factors such as gender, andusage of web in computers might affect students' attitudes toward computers and their computer skills as well.

Keywords: computer knowledge, student teachers, computer skills

1. Introduction
As technology advances, its impacts on people's lives have become more visible. Therefore the dependency on technology has increased in time. Computers are of the most outstanding ones of the technological devices which become part of daily routines. To be able to make use of such a facility, recognizing the potential role of computers and being technologically literate are essential. Computer skills must be improved to become technologically proficient and to prevent the prospect negative situations in the career. In the recent years, education has started to be one of the fields which uses computer based technology intensively. Thus, having computer skills and using computer based technology effectively during the classes have started to become important aspects for teachers. In this study, it was tried to find out the computer skills of university students and their experience levels of using defined software.

In order to be successful in academic programs and careers, it is essential that university students possess improved computer skills (Furst-Bowe & Boger, 1996) [2]. There are a lot of factors producing wide variations in the computer skill levels of college students, such as the courses they completed at high school and college, their academic major, their work experience, and their personal interest in computers and computing (Smith & FurstBowe, 1993). There is little agreement on what skill level was necessary for success in introductory and advanced coursework or on the types of computer skills necessary to obtain and maintain employment after graduation (Furst-Bowe & Boger, 1996) [2]. Researchers suggest that factors such as gender, age, experience, and interest in computers might affect students' attitudes toward computers and their computer skills as well (Morahan-Martin, 1992).

Technology is human innovation in action and computer knowledge is the basic condition for technology learning environment (International Technology Education Association, 1996; Li, 2008). The term "computer knowledge" is often used as a basis of making decisions regarding a student's ability to perform specific tasks on a personal computer (Lahore, 2008) [4].

2. Review of related studies
Pouchieu *et al*. (2015) carried out a study to find out to what extent computer knowledge and socioeconomic status affect attitudes towards a web-based cohort. The study showed that a substantial proportion of participants had low computer/Internet skills and suggested that this does not represent a barrier to participation in Web-based cohorts.

Li and Wong (2015) studied the computer Knowledge and use of Open Educational Resources among the University Students in Hong Kong and found that most students, despite 58 their high computer knowledge, have a low level of awareness and limited experience of OER, and have been exposed to only a few popular types of resources. The observations called for further institutional and instructional support to enhance student's awareness of available resources and understanding of their proper use.

Yoon, Jang and Xie (2015) carried out a study on Computer Use and Computer Anxiety in Older Korean Americans and revealed that a higher likelihood of computer use and lower levels of computer anxiety were commonly observed among individuals with younger age, male gender, advanced education, more positive ratings of health, and higher levels of acculturation. The study also showed that positive attitudes toward aging were found to reduce computer anxiety.

3. Operational Definitions
Computer Knowledge
Here, Computer knowledge is defined as the ability to create and manipulate documents and data through word processing, spreadsheets, databases, and other software tools.

Student teachers (B.Ed., students)

Students doing Bachelors in Education (II year) after finishing any degree in Arts or Science in any reputed colleges or Universities in a regular mode.

4. Objectives

- To find out the level of Computer Knowledge among B.Ed., students
- To find out whether there is any significant difference between male and female B.Ed., students in respect of Computer Knowledge
- To find out whether there is any significant difference among the sub-sample usage of web in respect of Computer Knowledge of B.Ed.., students
- To find out the relationship if any among the sub-sample (Usage of web) of B.Ed.., students in respect of Computer knowledge

5. Null hypotheses

- The level of Computer Knowledge among B.Ed.., students is low
- There is no significant difference between male and female B.Ed.., students in respect of Computer Knowledge
- There is no significant difference among the sub-sample usage of web in respect of Computer Knowledge of B.Ed.., students
- There is no significant relationship among the sub-sample (Usage of web) of B.Ed.., students in respect of Computer knowledge

6. Tool used in the present study

Computer knowledge test by Raghu Ananthala and Mahender Reddy (2016).

7. Computer knowledge test

Twenty first century is characterized with the emergence of knowledge based society wherein computer plays a significant role in the field of teaching and learning. National curriculum framework-2005 had highlighted the importance of computers in school education. Feeling the need of the knowledge of computer for teachers, the researchers developed the tool called Computer Knowledge Test (CKT) for the teachers. The researcher Raghu Ananthula and Mahendra Reddy Sarsani has included such items in the test which related to basic knowledge of computers, input-output devices, computer memory, operating systems, MS-Office, Information and communication technology, e-mail, internet and computer viruses. This tool have the reliability and the validity is 0.76 and 0.93

8. Method

Simple random sampling techniques were used to collect data from various B.Ed.., students of universities, aided colleges and affiliated colleges of Tamil Nadu Teacher Education University (TNTEU). The sample consists of 1012 B.Ed.., II year students.

Hypothesis: 1

The level of Computer Knowledge among B.Ed.., students is low

Table 1: Mean and standard deviation of computer knowledge of B.Ed.., students

Variable	N	Mean	S.D	M+1D	M-1D	Level
Computer Knowledge of B.Ed., students	1012	48.6	9.45	58.05	39.15	Average

It is clear from the table 1, that the Computer knowledge of B.Ed., students, mean and standard deviation scores are found to be 70.95 and 54.25 respectively. The mean value lies between 71 and 54. Hence hypothesis No. 1 is concluded that the Computer knowledge of B.Ed., students is average

Null Hypothesis 2: There is no significant difference between Male and Female B.Ed., students in respect of Computer Knowledge

Table 2: Mean difference between male and female B.Ed., students in computer knowledge

Variable	Gender	N	Mean	Standard deviation	t- value	Significant at 0.05/0.01 level
Computer Knowledge of B.Ed., students	Male	148	49.3	9.7	1.63	Not Significant
	Female	864	37.6	9.4		

From the table 2, it can be concluded that there is no significant difference between Male and Female B.Ed., students in respect of Computer knowledge. So, the null hypothesis No.2 is retained.

Null Hypothesis 3: There is no significant difference among the sub-sample usage of web in Computer Knowledge of B.Ed., students

Null Hypothesis 3(a): There is no significant difference between Daily and Weekly (Usage of web) of B.Ed., students in respect of Computer Knowledge

Table 3: Mean difference between daily and weekly (usage of web) in computer knowledge of B.Ed., students

Variable	Usage of web	N	Mean	Standard deviation	t- value	Significant at 0.05/0.01 level
Computer Knowledge of B.Ed., students	Daily	759	64.3	11.5	1.56	Not Significant
	Weekly	194	56.4	9.7		

From the table 3, it can be concluded that there is no significant difference between Daily and Weekly (Usage of web) in respect of Computer knowledge of B.Ed., students. Hence null hypothesis No.3 (a) is accepted.

Null Hypothesis 3(b): There is no significant difference between Daily and Not at all (Usage of web) of B.Ed., students in respect of Computer Knowledge

Table 4: Mean difference between daily and not at all (usage of web) in computer knowledge of B.Ed., students

Variable	Usage of web	N	Mean	Standard deviation	t- value	Significant at 0.05/0.01 level
Computer Knowledge of B.Ed., students	Daily	759	64.3	10.6	2.98	Significant
	Not at all	41	33.8	11.4		

From the table 4, it can be concluded that there is significant difference between Daily and Not at all (Usage of web) in respect of Computer knowledge of B.Ed., students. So, the null hypothesis 3(b) is rejected.

Null Hypothesis 3(c): There is no significant difference between Daily and Monthly (Usage of web) in respect of Computer knowledge of B.Ed., students.

Table 5: Mean difference between daily and monthly (usage of web) in computer knowledge of B.Ed., students

Variable	Usage of web	N	Mean	Standard deviation	t- value	Significant at 0.05/0.01 level
Computer Knowledge of B.Ed., students	Daily	759	64.3	10.6	1.43	Not Significant
	Monthly	18	43.1	10.8		

From the table 5, it can be concluded that there is no significant difference between Daily and Monthly (Usage of web) in respect Computer knowledge of B.Ed., students. So, the null hypothesis No.3(c) is retained.

Null Hypothesis 3(d): There is no significant difference between Weekly and Monthly (Usage of web) in respect of Computer knowledge of B.Ed., students.

Table 6: Mean difference between weekly and monthly (usage of web) in computer knowledge of B.Ed., students

Variable	Usage of web	N	Mean	Standard deviation	t- value	Significant at 0.05/0.01 level
Computer Knowledge of B.Ed., students	Weekly	194	56.4	9.7	2.81	Significant
	Monthly	18	43.1	10.8		

From the table 6, it can be concluded that there is significant difference between Weekly and Monthly (Usage of web) in respect of Computer knowledge of B.Ed., students. So, the null hypothesis 3(d) is rejected.

Null Hypothesis 3(e): There is no significant difference between Weekly and Not at all (Usage of web) in respect of Computer knowledge of B.Ed., students.

Table 7: Mean difference between weekly and not at all (usage of web) in computer knowledge of B.Ed., students

Variable	Usage of web	N	Mean	Standard deviation	t- value	Significant at 0.05/0.01 level
Computer Knowledge of B.Ed., students	Weekly	194	56.4	9.7	2.76	Significant
	Not at all	41	33.8	11.4		

From the table 7, it can be concluded that there is significant difference between Weekly and Not at all (Usage of web) in respect of Computer knowledge of B.Ed., students. So, the null hypothesis 3(e) is rejected.

Null Hypothesis 3(f): There is no significant difference between Not at all and Monthly (Usage of web) in respect of Computer knowledge of B.Ed., students.

Table 8: Mean difference between not at all and monthly (usage of web) in computer knowledge of B.Ed., students

Variable	Usage of web	N	Mean	Standard deviation	t- value	Significant at 0.05/0.01 level
Computer Knowledge of B.Ed., students	Not at all	41	32.3	10.4	1.51	Not Significant
	Monthly	18	50.1	11.5		

From the table 8, it can be concluded that there is no significant difference between Not at all and Monthly (Usage of web) in respect of Computer knowledge of B.Ed., students. So, the null hypothesis 3(f) is rejected.

Null Hypothesis 4: There is no significant relationship among the sub-sample (Usage of web) of B.Ed., students in respect of Computer knowledge

Table 9: Relationship among the sub-sample (usage of web) of B.Ed., students in respect of computer knowledge

Sub- sample		No. of students	r-value	Level of significance
Usage of web	Daily	748	0.33	Significant
	Weekly	194		
	Daily	748	0.85	Not significant

	Not at all	41		
	Daily	748	0.43	Significant
	Monthly	18		
	Weekly	194	0.48	Significant
	Monthly	18		
	Weekly	194	0.76	Not significant
	Not at all	41		
	Not at all	41	-0.31	Negatively significant
	Monthly	18		

The Pearson's product –moment correlation was computed to find the relation in respect of the internet usage among B.Ed., students. It is found that the obtained correlation values of the sub- sample (daily with weekly, daily with monthly, weekly with monthly) has significant relation. Also it is found that the sub-sample (daily with not at all, weekly with not all) has no significant relation. also it is found that the sub-sample (not at all with monthly) has negatively significant relation.

9. Results

- The Computer Knowledge of B.Ed., students is average.
- There is no significant difference between Male and Female B.Ed., students in respect of Computer knowledge.
- There is no significant difference between Daily and Weekly (Usage of web) in respect of Computer knowledge of B.Ed., students.
- There is significant difference between Daily and Not at all (Usage of web) in respect of Computer knowledge of B.Ed., students.
- There is no significant difference between Daily and Monthly (Usage of web) in respect of Computer knowledge of B.Ed., students.
- There is significant difference between Weekly and Monthly (Usage of web) in respect of Computer knowledge of B.Ed., students.
- There is significant difference between Weekly and Not at all (Usage of web) in respect of Computer knowledge of B.Ed., students.
- There is no significant difference between Not at all and Monthly (Usage of web) in respect of Computer knowledge of B.Ed., students.
- It is found that the obtained correlation values of the sub-sample (daily with weekly, daily with monthly, weekly with monthly) has significant relation. Also it is found that the sub-sample (daily with not at all, weekly with not all) has no significant relation. Also it is found that the sub-sample (not at all with monthly) has negatively significant relation.

10. Discussion

According to Murray and Blyth (2011) carried out a survey on the computer knowledge levels of 103 Japanese students of three universities at the beginning of the academic year and reported on the respondents perceived level of computer and internet knowledge, software use, skill and knowledge. The study found that though Japanese university students have computer and internet access, they had very low level of computer and internet knowledge.

This result is contradiction to him, because the B.Ed., students have the average level of computer knowledge.

According to Yoon, Jang and Xie (2015) carried out a study on Computer Use and Computer Anxiety in Older Korean Americans and revealed that a higher likelihood of computer use and lower levels of computer anxiety were commonly observed among individuals with younger age, male gender, advanced education, more positive ratings of health, and higher levels of acculturation. The study also showed that positive attitudes toward aging were found to reduce computer anxiety.

This result is contradiction to the above researchers, because the male and female B.Ed., students have no significant difference in their computer knowledge.

11. Conclusion

Depending on the findings the following suggestions might be made: it is important for each student to have the possibility of using computers in order to improve their computer skills. When they do not have such a possibility at home, school labs are the places where they supply their needs. Thus, it could have positive effects on students' computer skills if the labs are organized in way to make students access the computers more comfortably. Moreover the families' positive effects on the students' computer skills should not be neglected. Providing lifelong learning courses for the parents might help the children at home to improve their computer skills.

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