

Attitude of B.Ed. students towards learning through ICT in relation to their learning style

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Abstract: The study was conducted to access the attitude of B.Ed. students towards learning through ICT in relation to their learning style. The objectives of the study was to study the overall favorable attitude of B.Ed. students towards learning through ICT, to study relationship between the attitudes of B.Ed. students towards ICT and their learning style, to study the difference in the attitude of male and female B.Ed, post graduate and graduate B.Ed. students towards learning through ICT. In the present study 100 students were selected of B.Ed. class to collect the data which includes 50 male and 50 female B.Ed. students. The data was collected from the Lovely institute of Education, Phagwara. Stratified simple random sampling technique was applied to collect data of present study. Two tools were used, to access the attitude of B.Ed. students towards learning through ICT. Attitude of teachers towards web-based learning self made scale was used. To access the learning style of B.Ed. students Styles of Learning and Thinking (SOLAT) by Venket Raman (1994) was used. Statistical technique quartile deviation used to see the attitude B.Ed. students towards learning through ICT. t-test was used to see the difference between the attitude of male and female B.Ed. students and also to see the difference in the attitude of post graduate and graduate students towards learning through ICT. Statistical technique ANOVA was used to see the relationship between the attitude of B.Ed. students towards learning through ICT and their learning style. On the basis of the interpretation of the data conclusion have been drawn, The conclusions were there exists neither favorable nor unfavorable attitude of B.Ed. students towards learning through ICT, there was no significant relationship between the attitude of B.Ed. students towards ICT and their learning style and there was no significant difference between the attitude of male and female B.Ed. students towards learning through ICT. Also there was no significant difference between the attitude of post graduate and graduate B.Ed. students towards learning through ICT.

Keywords: ICT, Learning style, Attitude.

INTRODUCTION

The history of education in India is very rich and interesting. One can trace the ancient India education to the 3rd century BC. Research shows that in the ancient days, sages and scholars imparted education orally, but after the development of letters, it took the form of writing. Palm leaves and barks of trees were used for education, and this in turn helped spread the written literature. Temples and community centers often took the role of schools. In ancient India education system was confined to a few people who got education due to personal interests. Education in modern India gained a whole new facet with the promotion of western education in India which almost inevitably started with the coming of British. The British employed the strategy of emotional and intellectual colonization in India, to consolidate the political immigration. It was the affinity of elite section of Indian society to English culture, ideology and education, which facilitated the British to psychologically harness the nation's mindset. British wanted the malleable Indians to learn, speak and believe English and become shadows of Englishmen. The introduction of institutions for Western learning based with the British curriculum and English as a medium of instruction was introduced by the beginning of the early nineteenth century.

Now a days, the role of Information and Communication Technology (ICT) especially internet in the education sector plays an important role, especially in the process of empowering the technology into the educational activities. Education sector can be the most effective sector to anticipate and eliminate the negative impact of ICT. Technology (internet) in another side can be the most effective way to increase the student's knowledge. Being aware of the significant role of ICT (internet) in our life, especially in the educational activities, education authorities should be wise enough in implementing the strategies to empower ICT in supporting the teaching and learning process in the classroom. ICT is not just the bloom of the educational activities, but also it will be the secondary option to improve the effective and meaningful educational process. There are some unavoidable facts in the modern education; First, the ICT has been developing very rapidly now a days. Therefore, in order to balance it, the whole education system should be reformed and ICT should be integrated into educational activities. Second, the influence of ICT, especially internet cannot be ignored in our student's lives. So, the learning activities should be reoriented and reformulated, from the manual source centered to the open source ones. In this case the widely use of internet access has been an unavoidable policy that should be anticipated by schools authorities. third, the presence of multimedia games and online games by internet has been another serious problem that should be wisely handled by the educational institutions. The students cannot be exterminated from this case. They can have and do with it whatever and whenever they want. Schools, as a matter of fact, do not have enough power and time to prevent or stop it after school times. Meanwhile, most parents do not have enough times to accompany and control their children. So, the students have large opportunities to do with multimedia games or online games or browsing the negative and porn sites. Having been addicted, the students will have too little time to study, and even do not want to attend classes.



In such situation, education institution plays an important role to eradicate these problems. One of which is by facilitating the students to do edutainment or educational games. Schools can let their students be familiar with educational games adjusted by their teachers. Besides, they can also support and facilitate their students to have their own blogs in the internet. A lot of Web Blog provides are free to the users, such as Word Press. In their blogs, the students can create and write something, like an article, poem, news, shot stories, features, or they can also express their opinion by an online forum provides in the internet. They are able to share experiences throughout their blogs to others from all over the world. I think it will be an interesting activity for them, and it will lessen their time to visit the negative or porn sites existed. Hence, with an introduction of scientific technology, the need for the change and promotion of education system is ever escalating at greater pace. Education being one of the fundamental elements in globalizing and developing the world, there is even much greater need of new scientific method of teaching and learning in the field of education. Presently, every country in the world is scientifically and technologically competitive. By the beginning of new millennium, Information and communication technology became one of the leading programs in the World. ICT has topped the world's most leading industries in commercial field. In all kinds of industries, government or private entrepreneurs ICT has created vacant for many job-seekers. So, the education by virtue has to advance and manipulate in every aspect to meet present needs and desire of the ever growing society. Development of E-content in every discipline aims at meeting human desire at this present world.

The traditional teaching style is based on teacher's center of learning and the classroom's center of any learning activities. However, because information is rapidly spreading, and knowledge renewing faster, the traditional teaching style is no longer sufficient for learners. In the past, computer assistance teaching was one-way learning; now, computer assistance teaching with website combines into internet learning. The learning method is from one-way to two ways and from static to active. The advantages of e-learning are that learners can get more abundant and colorful materials and instructors can understand the desire and situation of learners. With accessibility of computer and web-based learning, the hard-text curriculums are gradually fading away from the glimpse of present generation. People are now moving towards advanced learning resources. So, it is general endeavor to meet the needs through reviewing and refining curriculum with the changing time and development.

According to the European Commission, the importance of ICTs lies less in the technology itself than in its ability to create greater access to information and communication in underserved populations. Many countries around the world have established organizations for the promotion of ICTs, because it is feared that unless less technologically advanced areas have a chance to catch up, the increasing technological advances in developed nations will only serve to exacerbate the already-existing economic gap between technological "have" and "have not" areas. Internationally, the United Nations actively promotes ICTs for Development as a means of bridging the digital divide. ICT is short for "Information and Communication Technologies." It is similar to IT (Information Technology), but focuses more on telecommunications mediums, such as the Internet, cell phone networks, and satellite technology. According to Markman and Brendl (2000) people evaluate objects in relation to currently active goals and attitudes are often designated as being the result of several major influences. The social group to which the individual belongs is perhaps the most influential. In this way, both the group to which the individual belongs as well as the groups to which he/she aspire to belong, exert an enormous influence on how attitudes develop. Student attitudes towards ICT which emerge through the interaction with the animation which was designed for this current research may have been determined through collaborating with peers, the administration of the project, and the influence of academic staff towards its conceptualization. The idea that attitudes function to evaluate psychological objects would appear to imply that individuals hold only one attitude towards a given object at any one time. Recent research indicates however that this is simplistic and that when attitudes change, the new attitude may override but not completely replace the old attitude. Wilson et al., (2000) suggest that a model of dual attitudes is a more realistic conceptualization in that people can hold two different attitudes towards an object at any given time. Wilson et al., (2000) posit that while an individual is capable of interacting with two attitudes at once, one can be viewed as implicit while the other operates more manifestly as explicit in expression.

The implicit attitude is understood to be automatically activated when the individual is presented with an attitude object while the explicit is more likely to require cognitive effort. A number of studies of prejudicial attitudes (Bargh et al., 1989) revealed that while implicit attitudes could emerge towards a particular race of people for example, explicit attitudes could override these reactions under the influence of group norms and with access to cognitive resources. In such a way more favorable attitudes could be retrieved. Wilson et al. (2000) found that implicit attitudes exerted more influence than explicit attitudes over involuntary non-verbal behavior signaling discomfort such as excessive blinking, avoidance of eye contact and spatial distance. During life, experiences lead to the formation of many different beliefs about objects, actions and events. These beliefs may be the result of direct observation or inference. Some attitudes may be stable over time, others may exhibit frequent shifts. Ukhival (2006) found that attitude towards teaching profession has positive relationship with their age and experiences were contrasted with those of experienced teachers. Kumar (2007) reported that professional competency and ICT usage are significantly related. Selvam (2007) concluded that there is no significant difference in the mean attitude scores of matriculation teachers towards educational technology between the sub-variables like gender, age, religion and marital status. Rathnabai Angel (2007) reported that ICT in teaching learning process enhances the teaching and learning which in turn provides the quality education. Jasmine Kumar (2007), conducted study on "professional competency of teachers and teacher educators in relation to their ICT usage" with the sample of 30 teacher educators and 50 teacher from Government, Government Aided and Aided Minority institution in Chennai city, Tamilnadu, reported that professional competency and ICT usage are significantly related. Angel Rathnabai, conducted study on "Infusing ICT in teaching learning process: A Reflection" places namely Mysore, Pondicherry and Tumkur. It was hypothesized that CAI approach would be effective than traditional approach on acquisition and retention of knowledge and it would be an effective reinforcement tool. The students undergoing the CAI approach has found to score more in knowledge acquisition test and in the test conducted after reinforcement than the students undergoing traditional approach. The mean scores reveal that the students under CAI approach has scored more than the students under traditional approach in the delayed test conducted after a month. Thus infusing ICT in teaching learning process enhances the teaching and learning which in turn provides the quality education.



Illyaperumal in his study on "Perception of student teachers towards the role of technology in education for sustainable development" with the sample of 100 student teachers selected from the union territory of Puducherry, Concluded that the perceptions of student teachers are above average. Also a significant difference is observed between the groups regarding locality, type of selection and community. Therefore it is necessary for our future teachers to have the knowledge and understanding of the role of ICT in sustainable development. Priya, in a study on "An analysis of web usage among teacher educators and student teachers" reported that WWW is considered as an important learning environment among the Student Teachers and Teacher Educators. The Student teachers access the Web more than the Teacher Educators. It shows that the internet has not penetrated fully in every sphere of life, particularly in the academia.

LEARNING STYLES

This approach to learning emphasizes the fact that individuals perceive and process information in very different ways. The learning styles theory implies that how much individuals learn has more to do with whether the educational experience is geared toward their particular style of learning than whether or not they are "smart." In fact, educators should not ask, "Is this student smart?" but rather "How is this student smart?" The concept of learning styles is rooted in the classification of psychological types. The learning styles theory is based on research demonstrating that, as the result of heredity, upbringing, and current environmental demands, different individuals have a tendency to both perceive and process information differently. The different ways of doing so are generally classified as: Concrete and abstract perceivers—Concrete perceivers absorb information through direct experience, by doing, acting, sensing, and feeling. Abstract perceivers, however, take in information through analysis, observation, and thinking. Active and reflective processors—Active processors make sense of an experience by immediately using the new information. Reflective processors make sense of an experience by reflecting on and thinking about it. Traditional schooling tends to favor abstract perceiving and reflective processing. Other kinds of learning aren't rewarded and reflected in curriculum, instruction, and assessment nearly as much.

Curriculum—Educators must place emphasis on intuition, feeling, sensing, and imagination, in addition to the traditional skills of analysis, reason, and sequential problem solving.

Instruction—Teachers should design their instruction methods to connect with all four learning styles, using various combinations of experience, reflection, conceptualization, and experimentation. Instructors can introduce a wide variety of experiential elements into the classroom, such as sound, music, visuals, movement, experience, and even talking.

Assessment—Teachers should employ a variety of assessment techniques, focusing on the development of "whole brain" capacity and each of the different learning styles.

Furnham (1999) reported that extrovert type of person's were found to be activist in learning style while introverts found to be reflectors in learning style, neurotics were found to be more theorist in learning style than stable type of persons. Mathews (2000) found that students preferred styles in the instruction design can benefit the quality of learning environment and consequently, result in positive students learning outcomes. Drysdale (2001) found no significant difference between the learning style and academic performance of liberal arts and social science students. Srivastva (2002) found that most popular learning styles of the students is accommodating learning styles and second popular learning styles is convergent. Jie and Qin (2006) explored that the learning styles have a significant influence on learner's learning strategy choices. Poole Judith (2006) reported that an initial assessment of learning styles can be useful in predicting the kinds of web-based activities likely to prove valuable to the individual student. Potentially, this has consequences for the development of web-based and other learning materials in other subject areas. Coffield et al. (2004) compare the 13 theories of learning styles based on the qualitative meta-analysis on four criteria as internal consistency, test-retest reliability, constructive and predictive reliability. The concept of learning styles is embedded in different academic literature and researched from different approaches, including intelligent learning systems, a genetic algorithm approach to students' learning styles web-based education perspective on learning style, learning about and through aesthetic experience, use of business case studies in learning process problem-solving strategies within learning styles, preferred learning styles and adaptive learning system perspective of learning styles. The growing interests of learning styles theories and instruments in higher education and management education, the concept of organizational learning is emerging among business entities and organizational learning companies. According to Škerlavaj & Dimovski (2007), organizational learning has emerged as one of the most researched phenomenon in organizational sciences. Therefore, it comes as no surprise that the concept of organizational learning is founded on a wide assortment of theoretical assumptions which should be viewed as complementary to each other in the understanding of the organizational learning field and field of learning styles. Lisle A.M (2007) studied in his work the development of an electronic inventory to assess learning styles of adults with intellectual difficulties was seen as an inclusion strategy to aid learning and achievement. Severians (2007) found in his study the strong influence of learning context on women's and men's learning styles. Results shows that man were likely than women to prefer the abstract conceptualization mode of learning considering gender difference in learning styles.

Significance of the Study

World is becoming global today, people are connected virtually. Social and technological changes have salutary effects on all walks of human life including teaching and learning. In the last decade of last century and the first decade of the present millennium, education sector is under rapid change. Changes that are seen are relating to the information and communication technologies. Teachers of schools



faculty in colleges are busy in downloading important updated material. Face to face teaching is replaced by virtual learning environment and web based learning. Teachers at higher education sector prefer to have web based teaching and learning. Therefore web based learning is now considered as an alternative to classroom face to face teaching. The web has also expanded opportunities for the increasing information to enhance the traditional classroom instruction. Currently, there is a greater possibility of assessing up to date content, as updating information on the web can be done faster and more easily than the textbooks. In addition, educators can make choices as to what technologies to integrate into their classroom situations from the large pool of resources available, such as CD- ROMs, DVD-ROMs, application software, and multimedia applications. The computer and online curriculum have been incorporated into all levels of educational systems. However, the instructional effectiveness and online learning are related to many factors including students' attitudes towards these technologies. In past decade, there is remarkable development in the use of ICT. In developed countries, the delivery of many courses in higher education sectors has changed. New technology has been used inside and outside the classroom to enhance students learning. ICTS are potentially powerful tool for extending educational opportunities, both formal and informal. Students are all equal to the situations at the school. This is the aim of changing the teaching and learning at different levels of education due to changes of technology, society, and culture. The possibilities of the schools change all the time. Now a days, the information and communication technology (ICT) is often used to provide adequate challenges to all students. It brings into focus initiatives with ICT-fostering learning for all students. This study focuses on the teacher's need of inspiration and up-to-date knowledge in this field. It suggests various initiatives suited for the sharing of knowledge about practice.

Objectives of the Study

- To study the overall favorable attitude of B.Ed. students towards learning through ICT.
- To study relationship between the attitude of B.Ed. students towards ICT and their learning style.
- To study the differences in the attitude of male and female B.Ed. students towards learning through ICT.
- To study the differences in the attitude of post graduate and graduate B.Ed. students towards learning through ICT.

Hypotheses of the Study

- There exists overall favorable attitude of B.Ed. students towards learning through ICT.
- There exist no significant relationship between the attitude of B.Ed. students towards ICT and their learning style.
- There exists no significant difference in the attitude of male and female B.Ed. students towards learning through ICT.
- There exists no significant difference in the attitude of post graduate and graduate B.Ed. students towards learning through ICT.

Method and Procedure

Sampling is a process of obtaining about entire population by examining only a part of it. Sample should be truly representative of the population characteristics without any biasness, so that it may result in valid and reliable conclusions. 100 B. Ed. Students constituted the sample for the present study. Data were collected from the students studying in Lovely School of Education, Lovely Professional University, Phagwara by using stratified random sampling technique. For the present study descriptive survey method was used by the investigator

Sample and Population

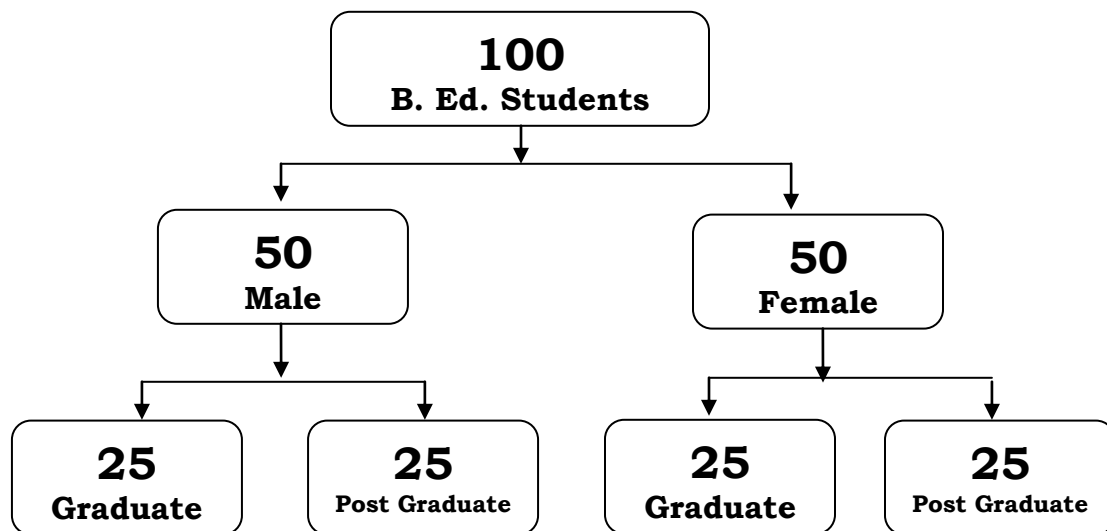


Figure 1



TOOLS USED

Following tools have been used by the investigator for collection of data :

1. Styles of Learning and Thinking (SOLAT) by Venket Raman (1994).
2. Attitude of Prospective teachers' towards ICT (constructed by investigator himself in 2011)

DESCRIPTION OF THE TOOL CONSTRUCTED

Attitude of Prospective Teachers towards ICT Scale

An attitude questionnaire was used by the investigator to collect the information. This questionnaire was developed to check the attitude of perspective teachers' towards ICT. It consists of 35 statements. All the statements are related with ICT. It was three point scale. The response will present in the three forms agree undecided and disagree. It has 22 favorable statements and 13 unfavorable statements. It is mainly used to assess the attitude of perspective teachers' ICT.

Validity

For establishing the face validity of the scale, views of experts in the field of education ICT were sought. After discussion with these experts it was decided to modify 7 items and to delete 9 items from the scale. 35 items were retained in the final form of the scale.

Table No. 1

No. of items in rough draft	Items modified	Items deleted	No. of items in final draft
44	7	9	35

The scale consisted of 35 statements. Each statement have 3 responses. The responses were expressed in 3 point scale Agree, Undecided, and Disagree for favorable statements. The scoring is done through three responses agree, undecided and disagree and their corresponding scoring is 3, 2, 1. Similarly for unfavorable statements the scoring is done through three responses agree, undecided and disagree and their corresponding scoring is 1, 2, 3. The total numbers of favorable and unfavorable statements are as under:

Favorable Statements

1,3,5,6,8,10,11,13,15,16,17,18,22,23,26,27,29,30,31,32,34,35.

Unfavorable Statements

2,4,7,9,12,14,19,20,21,24,25,28,33.

STATISTICAL TECHNIQUES

Parametric techniques were used in the present studies, which are as follows:

1. t-test
2. ANOVA

RESULTS, DISCUSSIONS & INTERPRETATION

Data once collected was analyzed with the help of statistical techniques which yield certain results. This process leads researcher to draw a rational conclusion on the research problem. Tabulated data is analyzed through statistical techniques to yield certain results.

Result pertaining to the attitude of the B.Ed. students towards ICT

In order to study the attitude of the B.Ed. students towards ICT the data was collected and scores of attitude scale were tabulated. Quartiles were computed and the result was interpreted in the light of the underneath hypotheses.

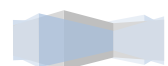


Table -2

Attitude of B.Ed. Students towards Learning through ICT

N	Value of Q1	Value of Q3	No. of students below Q1	No. of students between Q3 and Q1	No. of students above Q3
100	69	86	25	55	20

It is clear from table-2 that 25% students scored below Q1 i.e. 69 and 20% students scored above the Q3 i.e. 86 where as 55% students scored between Q3 and Q1. It indicates that majority of B.Ed. students have a neutral attitude towards ICT. Hence the hypotheses that B.Ed. students have favorable attitude towards ICT is rejected.

Results pertaining to the difference in the attitude of B.Ed. students towards learning through ICT in relation to their learning style

In order to find out the difference in the attitude of B.Ed. students towards learning through ICT in relation to their learning style the data was collected and tabulated. For the purpose questionnaire pertaining to attitude towards ICT was applied on 100 students. For knowing the difference in their attitude, ANOVA was computed and described as below:

Table -3

Attitude of B.Ed. Students towards Learning through ICT In Relation to their Learning Style

Source of variance	SS	DF	MS	F
Between	264.46	2	132.23	1.166*
Within	11365.74	100	113.66	
Total	11630.19	102		

*insignificant at 0.05 level

The hypothesis of the present study was to know the difference in the attitude of B.Ed. students towards learning through ICT in relation to their learning style. The result explored F-value 1.166 at 0.05 level of significance which is found to be insignificant. Thus, hypothesis stands rejected.

To study the difference in the attitude of male and female B. Ed. students towards learning through ICT.

The third objective of the present study was to know the difference in attitude of male and female students towards ICT. For this purpose scale pertaining to attitude towards ICT was applied to 100 students. For knowing the difference in the attitude of male and female students towards ICT was computed and described below:



Table-4
Attitude of Male and Female Student towards Learning through ICT

Group	Male	Female
Mean	77.16	76.9
SD	102.9943	125.0306
N	50	50
DF	97	
t-value	0.12175*	

*insignificant at 0.05 level

From the above table it is interpreted that the mean value of male and female students' attitude towards ICT has 77.16 and 76.9 respectively. The t-value has been found to be 0.12175 which is insignificant. The hypothesis of the present study which stated that there exist no significant difference in the attitude of male and female students towards ICT accepted. Hence there is a significant difference in the attitude of the male and female B.Ed. students towards ICT.

Result pertaining to the difference in the attitude of posts graduate and graduate B.Ed. students towards learning through ICT.

The fourth objective of the present study was to know the difference in attitude of post graduate and graduate students towards ICT. For this purpose scale pertaining to attitude towards ICT was applied to 100 students. For knowing the difference in the attitude of post graduate and graduate students towards ICT mean scores and standard deviation was computed and described below

Table No-5
Attitude of Post Graduate and Graduate B.Ed. Students towards Learning through ICT

Group	Post graduate	Graduate
Mean	75.48	78.58
SD	122.2547	100.9016
N	50	50
DF	97	
t- value	0.99403*	

*insignificant at 0.05 level

From the above table it is interpreted that the mean value of post graduate and graduate students' attitude towards ICT has 75.48 and 78.58 respectively. The t-value has been found to be 0.99403 which is insignificant. The hypothesis of the present study which stated that there exist no significant difference in the attitude of male and female students towards ICT accepted. Hence there is a significant difference in the attitude of the post graduate and graduate B.Ed. students towards ICT.



CONCLUSIONS

The educational planner and teacher should be aware of the preferred learning styles of the students so that they can design their instructional material accordingly. Information about learning style can help faculty members become more sensitive to the differences that the students bring to the classroom. It can also serve as a guide in designing learning experiences that match or mismatch student's styles, depending on the teacher purpose. Learning preferences and styles can help teacher to be more flexible in their teaching and to utilize a wider range of classroom methodologies. People's learning style varies because everyone is different from one another. It offers the opportunity to teacher to teach by using a wide range of methods in an effective way. Sticking to just one model unthinkingly will create a monotonous learning environment, so not everyone will enjoy the lesson. Therefore, individual modes of learning should be looked into carefully. It is important that individual receive education in areas suitable for their learning styles. A person educated in an area having no relationship to his/her learning style may lack confidence and s/he may be less successful; s/he may as a result become frustrated. Knowledge of learning style also provides information to the student as to why s/he has learnt in a different way than others. It helps to control the process of learning. In this regard teachers should help students in identifying students learning styles. The attitude of the teachers should be also taken into consideration. Students should be motivated if needed case description of success/failure should be discussed. The study can also be conducted on educated employed people and educated unemployed people to access their attitude towards ICT. The study can be conducted on university/school teacher also. Comparative study on user and non-user of ICT in relation to their performance in teaching can also be conducted. ICT should be introduced in school and colleges to provide the update knowledge to the learners.

SUGGESTIONS

Research is never an ending process. Every investigator after completing his research becomes aware of areas in which further research is needed and naturally feels motivated to indicate area which may be taken up for research by other investigator. The researcher by the virtue of her experience in the field of the study offers the following suggestions for further research that could be undertaken by perspective researchers:

1. The study can be carried by taking more disciplines so that we know the preferred learning styles of university students.
2. The present study was carried out with limited sample size. The finding and conclusions need to be verified in big size of sample.
3. The study can be carried out on the other universities so that we can compare their preferred learning styles.
4. The study can be carried out identify specific learning styles required for different streams.
5. The study could be carried out by taking more variable like personality characteristic and aptitude and cognitive abilities etc.

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