RESEARCH PAPER

ASSESSING INFORMATION COMMUNICATION TECHNOLOGY (ICT) SKILLS OF DEGREE SCIENCE STUDENTS OF AN AUTONOMOUS COLLEGE OF ODISHA : A SURVEY

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ABSTRACT

Information Communication Technology (ICT) has gained a vital place to intervene in every activities of human life from study room to working place. It has affected the academic processes, corporate house and employment system of the world. To stay with this system students are to be more skilled and proficient on computer and related technology. The present paper is a survey conducted in Prananatha (Autonomous) College, Khurda of Odisha state. The study explores the students' perception, attitude and basic skills on ICT, internet using pattern of the students and use of web based services etc.

Keywords: Information Communication Technology, Computer skills, Web Based Services.

1. INTRODUCTION

This 21st century is Information Communication Technology age. In this age computer has greatly affected the human life staring from home to office. It has changed the life style as well as working environment of the people. It is widely being used in every industry, production house, corporate office and educational institutions. Its application has profoundly influenced over the performance, production and profit of these institutions. The academic institutions have performed so brilliantly with the usage and impact of ICT. The teaching and learning process as well as library system has gone a sea change due to advent of ICT.

After independence Govt. of India has enacted so many plans and programmes for wider spread of computer applications. Frequently, wide ranges of programmes are being carried out to develop the computer skills and proficiency of the working people, teaching community and students. Due to such type of continuous activities the percentage of computer literate people has increased to a reasonable quantity. So in this survey the investigators have tried to explore the students' basic skills on ICT, internet using pattern and use of web based services etc. in Prananatha (Autonomous) college of Khurda, Odisha.

The Prananatha (Autonomous) College, Khurda is as old college of Odisha. It came in to existence in the year 1959 and successfully crossed a long miles stone of glorious 50 years. The college has accredited as "A" by the UGC New Delhi and gained Autonomous status. The Prananatha (Autonomous) College offers courses in Arts, Commerce and Science streams from +2 level to Post Graduate level. About seven subjects in science stream are being taught in

degree level of study. Nearly three hundred science graduate students annually get pass out from this college and enter in the higher education system and employment sector of the country. The college has its own identity to produce numbers of administrators, managers, entrepreneur, doctors and engineers. So this survey will be a very useful study to identify and discover students' attitude, skills and proficiency in accessing ICT technology.

2. OBJECTIVE OF THE STUDY

The present study is set with the following main objectives;

- To investigate the students' working knowledge and experience on Information and Communication Technology,
- To investigate the students' Internet using pattern and frequencies ,
- To identify the Web based services used by the students, and
- To know the students' ability to perform simple PC maintenance, and their awareness in embracing of new computer software

3. SCOPE AND LIMITATIONS OF THE STUDY

The scope and limitations of the present study is confined to only final year Degree Science students of 2013 academic session and by degree of course, restricted to only Bachelor of Science (B.Sc.) comprising Botany, Chemistry, Computer Sc., Geology, Mathematics, Physics and Zoology subjects both in Honours and Pass students.

This survey is conducted in the college premises of Prananatha Autonomous College, Khurda, Odisha.

4. RESEARCH METHODOLOGY

Survey method and questionnaires were used by the investigators to obtain all important and relevant data from the students. A purposive sampling was maintained to consider the respondents of the study. A total number of 130 questionnaires were distributed among the final year degree science students of Botany, Chemistry, Computer Sc., Geology, Mathematics, Physics and Zoology subject of the college. Among them only 120 students returned the filled questionnaires giving an overall response rate of 80%. With this response rate it was decided to carry out the work of tabulation, data analysis and interpretation.

5. DATA ANALYSIS AND INTERPRETATION

Population Study: Table-1 depicts the population comprised in the survey. Out of the 120 respondents, 38(32%) female and 82(68%) male students were participated in the survey. Highest 32(27%) students from Computer Science and lowest 8(7%) students from Mathematics and Zoology subjects have participated in the study.

Table 1: Population Study

Students	Subjects wise distribution							Total*
	Botany	Chemistry	Com. Sc.	Geology	Mathematics	Physics	Zoology	
Female	5	5	12	6	3	5	2	38(32%)
Male	13	15	20	12	5	11	6	82(68%)
TOTAL	18(15%)	20(16%)	32(27%)	18(15%)	8(7%)	16(13%)	8(7%)	120(100%)

*Data within the parenthesis represents the nearly percentage

Students' Perception & Attitude on ICT: It is very important to know the students' perception and attitude on Information Communication Technology before going to study about their skills or competence. They must have some idea about its implications and use. Unless the target group will not be able to convey their views and opinion. Table: 1 shows that the students were asked to view their perception and attitude on ICT, that whether it has affected & influenced the academic as well as employment of the present society. The result showed that maximum 105 (87.5%) students are strongly agree with the statement and only 15 (12.5%) students are disagree with the statement asked to them. So it is revealed that computer and its applications have gained its popularity. Students are very aware about the emergence and importance of it.

Table 2: Students' Perception & Attitude on ICT

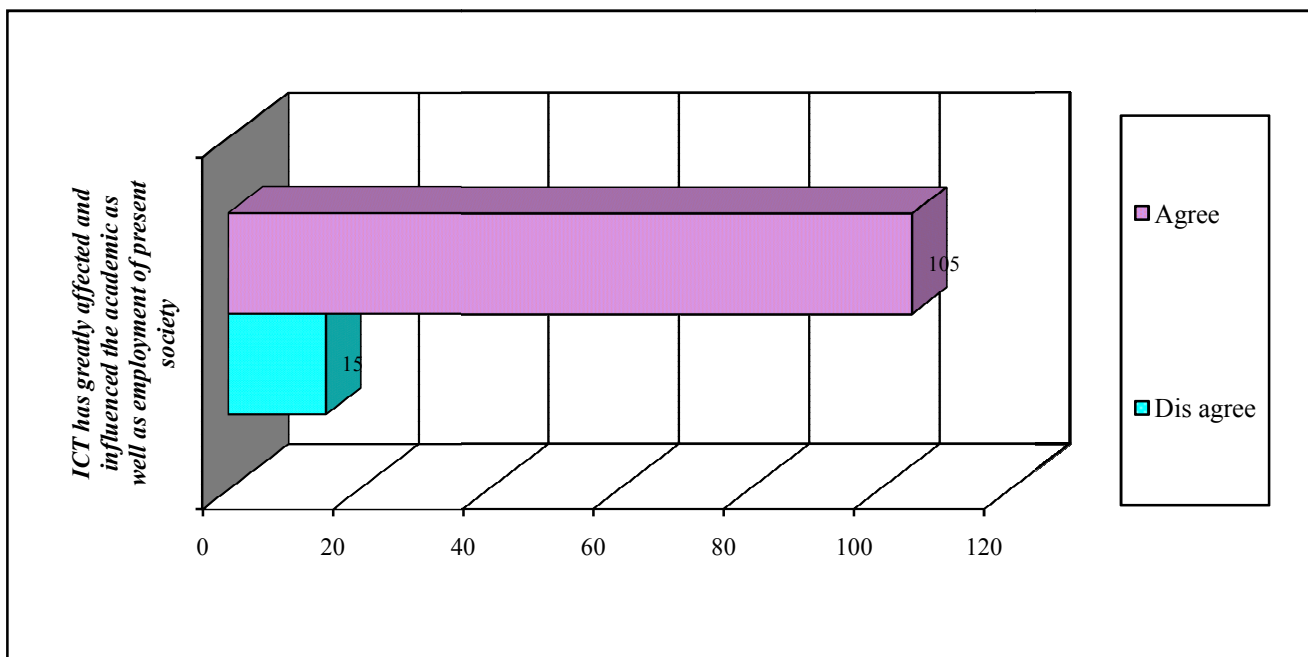| Perception & Attitude of Students on ICT	Response of the Students			
	Agree	Percent (%)	Disagree	Percent (%)
ICT has greatly affected & influenced the academic as well as employment of the present society	105	87.5	15	12.5

Diagram 1: Students' Perception & Attitude on ICT

Students' working knowledge & experience on ICT: Table: 2 depict the students' basic working knowledge and experience on ICT. To assess the students' confidence level on basic working knowledge and experience, the investigators framed four parameters like 'Not confident', 'Less confident', 'Confident' and 'Very confident'. Parameter 1 'Not confident' and parameter 3 'Confident' were considered as the target parameter to assess the students' confidence level. It is found that highest 81(67.5%) students are confident on 'Create & manage Word, Excel and PPT files' followed by 57(47.5%) students 'Access and store data on CD/DVD'. Similarly 56(46.6%) students have confidence on 'Use printer to take a hard copy' followed by 39(32.5%) students on 'Access e-resources from digital library' and 34(28.3%) students on 'Search online catalogue (OPAC)'. Lowest 18(15.0%) students have confidence on 'Search online databases'.

Table 3: Students' Working Experience & Knowledge on ICT

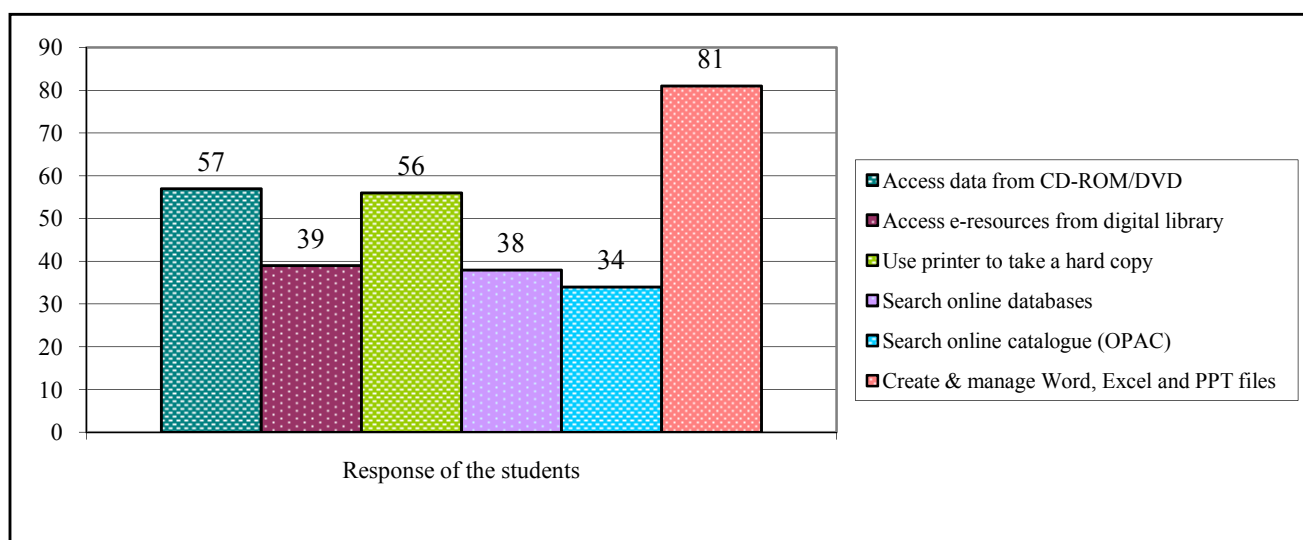| Students' Working Knowledge On Computer	Confident level of Students	
	Response	Percentage
Access and store data on CD/DVD	57	47.5
Access e-resources from digital library	39	32.5
Use printer to take a hard copy	56	46.6
Search online databases	18	15.0
Search online catalogue (OPAC)	34	28.3
Create & manage Word, Excel and PPT files	81	67.5

Diagram 2: Students' Working Knowledge & Experience on ICT

Students' Internet Accessing Pattern and Frequency: Here in Table: 3 the various aspects of internet use of students like accessing pattern (place where they access internet) and frequencies of internet use have been analyzed. Studies reveal that about 63(52.5%) student's access internet in cyber cafe and 26(21.6%) students access it in their college library. Cyber cafe and college library are the two most rated place of accessing internet by the students. Again it is seen that 18(15%) students access internet in friend's home. But the access of internet by students at individual home is very less. Only 6(5.0%) students access the internet at their own home. On the other hand the studies of frequency of accessing of internet reveal that, weekly frequency is highest with 52(43.3%) students. Next to it 37(30.8%) students access the internet at least daily basis and 21(17.5%) students' access occasionally and 10(8.3%) students access the internet monthly basis respectively.

Table 4: Students' Internet using Pattern & Frequencies

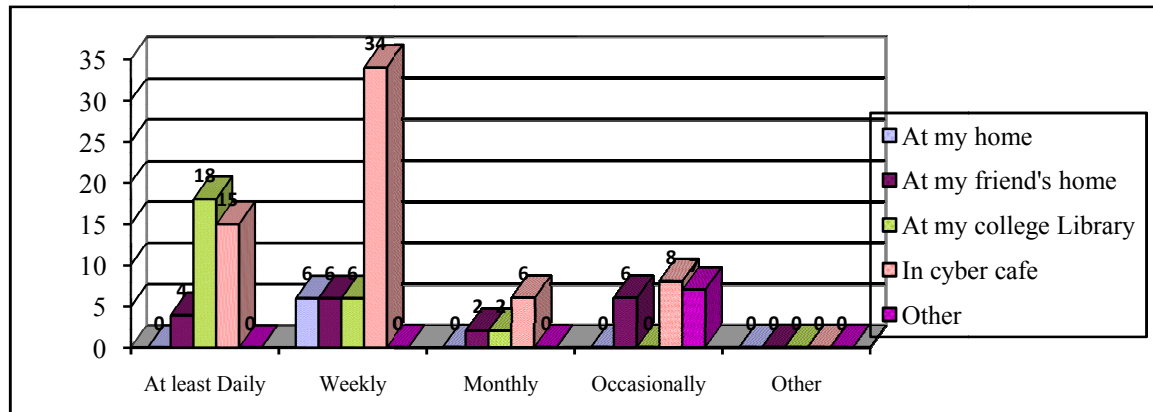| Internet using pattern	Frequencies of using of internet					Total
	At least Daily	Weekly	Monthly	Occasionally	Other	
At my home	0	6	0	0	0	6
At my friend's home	4	6	2	6	0	18
At my college library	18	6	2	0	0	26
In cyber cafe	15	34	6	8	0	63
Other	0	0	0	7	0	7
TOTAL	37	52	10	21	0	120

Diagram 3: Students' Internet Using Pattern & Frequencies

Web Based Services Used by the Students: Table: 4 shows the students' frequently used web based services. Result shows that both Chat and Social Networking services (Facebook etc.) were selected by highest 67(56.8%) students as frequently used web based services. Whereas 47(39.1%) students choose Email services and 45(37.5%) students choose public websites. Students have less response on other web based services like Course websites/ wares 29(24.1%), Online databases 18(15.0%) and Blog 9(7.5%), and no response against Discussion board/ forum.

Table 5: Frequently used Web Based Services by the Students

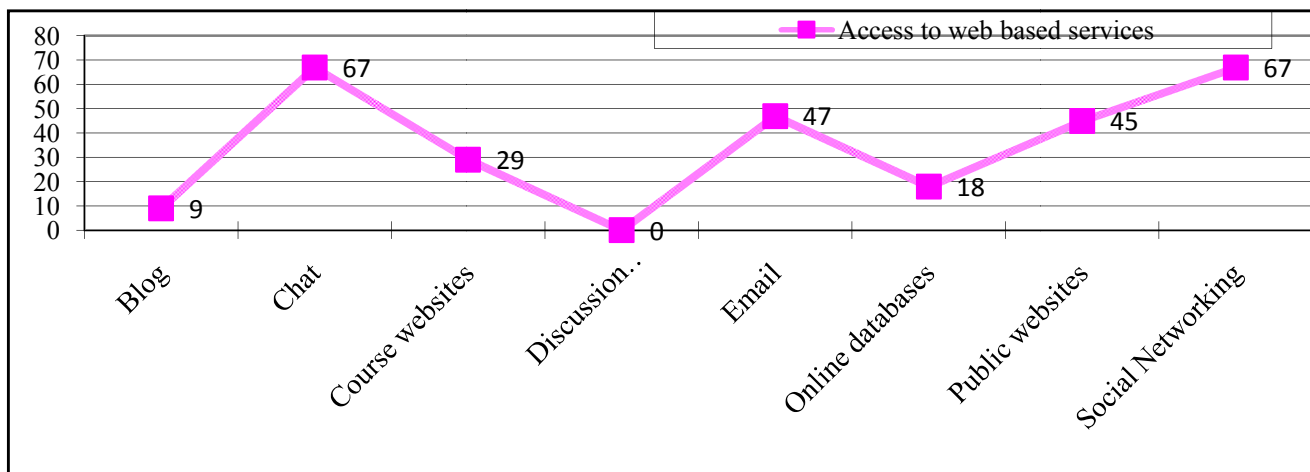| Web Based Services	*Frequently used web based services*	
	Response	Percent (%)
Blog	9	7.5
Chat	67	56.8
Course websites/ wares	29	24.1
Discussion board/ Forum	0	0
Email services	47	39.1
Online databases	18	15.0
Public websites	45	37.5
Social Networking services (Facebook etc.)	67	56.8

Diagram 4: Web Based Services Used by the Students

Students' Ability to Perform Simple PC Maintenance: To study the students' minimum ability to perform simple PC maintenance some parameters were framed by the investigators as 'Anyhow mode' and 'Unsure mode'. 'Anyhow mode' has been categorized under 'Do this alone', 'Need some help' and 'Trial & error'. Whereas 'Unsure' mode is categorized under 'Don't know' mode. Highest 99(82.5%) students have ability to perform 'Data backup' operation with Anyhow mode and among them highest 49(40.8) students have ability to 'Do this alone'. It is followed by 96(80.0%) students having ability to perform 'PC scan'. About 93(77.5%) students have ability on 'Installing new software' and 68(56.7%) students have ability on 'OS update'. Whereas maximum 89(74.2%) students have not ability to perform 'LAN' operation.

Table 6: Ability to Perform Simple PC Maintenance

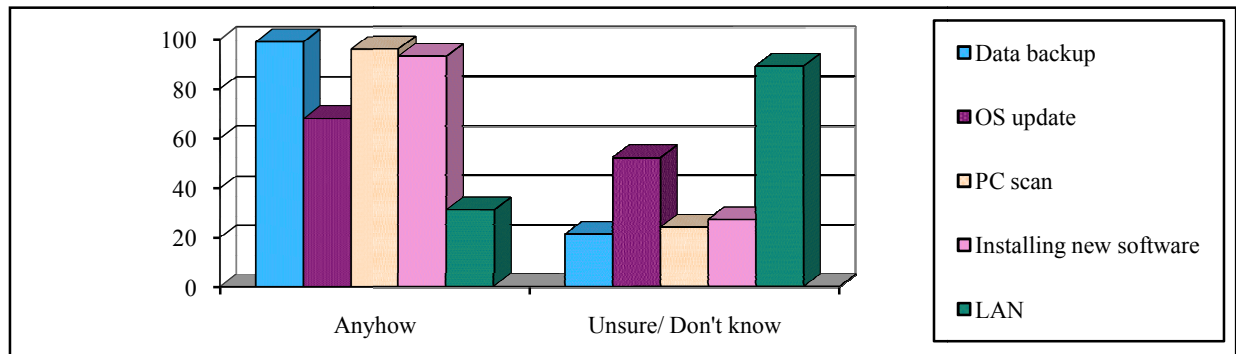| Simple PC Maintenance	Ability level to perform simple PC maintenance							
	Do this Alone/ Anyhow	%	Need Some Help/ Anyhow	%	Trial & Error/ Anyhow	%	Don't Know/ Unsure	%
Data backup	49	40.8	35	29.1	15	12.6	21	17.5
OS update	18	15.0	42	35.0	8	6.7	52	43.3
PC scan	39	32.5	40	33.3	17	14.3	24	20.0
Installing New Software	21	17.5	47	39.2	25	20.8	27	22.5
LAN	5	4.2	12	10.0	14	11.6	89	74.2

Diagram 5: Ability to Perform Simple PC Maintenance

Students' awareness in embracing new computer software: Table: 6 show the students' awareness in embracing new computer software. Result shows that highest 70(58.3%) students prefer 'read the user manual' while installing and updating a computer software. It is followed by 66(55.0%) students prefer 'call a help desk' and 62(51.7%) students prefer 'ask a friend or family member'. Lowest 12(10.0%) students prefer 'use the application help screen'.

Table 7: Awareness in Embracing New Computer Software

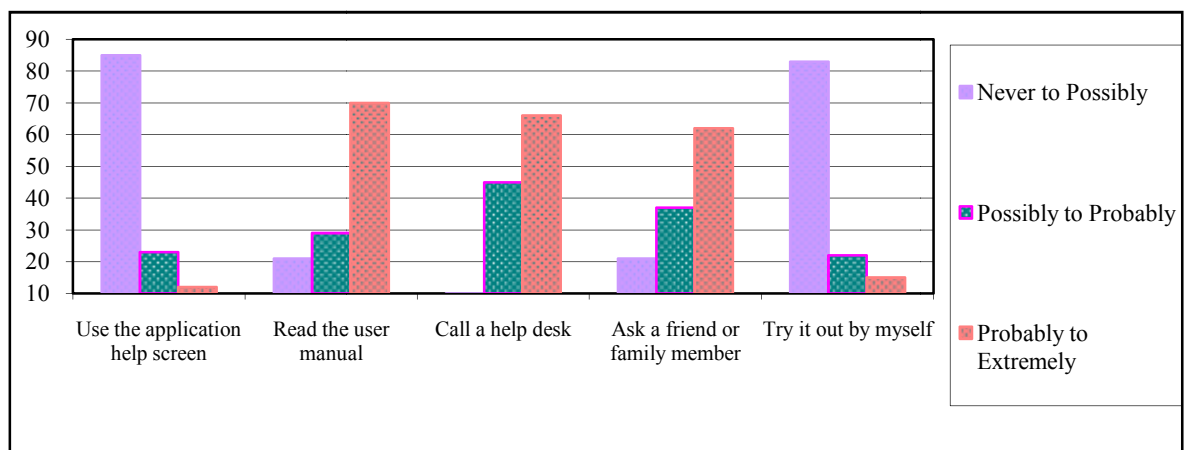| Steps in a Software Application	Awareness in embracing new computer software					
	Never to possibly	%	Possibly to Probably	%	Probably to Extremely	%
Use the application help screen	85	70.8	23	19.2	12	10.0
Read the user manual	21	17.5	29	24.2	70	58.3
Call a help desk	9	7.5	45	37.5	66	55.0
Ask a friend or family member	21	17.5	37	30.8	62	51.7
Try it out by myself (trial & error)	83	69.2	22	18.3	15	12.5

Diagram 6: Awareness in Embracing New Computer Software

6. FINDINGS AND CONCLUSION OF THE STUDY

The main purpose of this survey was to assess the basic computer skills of the degree students as the present employment world needs computer skilled personnel. Besides course knowledge and academic career, computer knowledge is essential to work in such a highly techno savvy environment. The findings of the study are summarized as below;

- Highest 105(87.5%) students are strongly agree with the statement 'ICT has affected & influenced the academic as well as employment of the present society'. It is revealed from the statement that, the students understand the importance and relevance of ICT.
- Students' working knowledge and experience on ICT is not effective. Online searching knowledge of the students is very poor. Below 30% students have shown their confidence on 'Access e- resources from digital library', 'Search online catalogue' and 'Search online data bases'.
- It is revealed that highest 63(52.5%) students' access internet in Cyber cafe and the students like mostly to access internet in a weekly frequency basis.
- Highest 67(56.8%) students frequently use Chat and Social Networking Services (Web based services). But not a single student use Discussion Board/ Forum. Lowest 9(7.5%) students use Blog.
- Students have ability to perform simple PC maintenance Anyhow except Local Area Network (LAN). About 89(74.2%) students are unsure to perform LAN.
- Highest 85(70.8%) students prefer 'Use the application help screen' and lowest 29(24.2%) students prefer 'Read the user manual' while installing and updating a computer software.

7. REFERENCES

[1] Amini, M. S. (1991). "Assessing Computing Literacy of Business Students in a regional University: Prospects for the 90s." *Journal of Information Systems Education,* 5(3), 23-30

[2] Barrera, J. C. (2013). "Computer Literacy in Undergraduate Business Education: The Case for the Adult Fast Track Programs." *American Journal Of Business Education*, 6(4), 471-482

[3] Bradlow, Eric T. & et al. (2002). An Assessment of Basic Computer Proficiency among Active Internet Users: Test Construction, Calibration, Antecedents and Consequences." *Journal of Educational and Behavioural Statistics*, 27(3), 237-253

[4] Childers, S. (2003). Computer Literacy: Necessity or Buzzword?" *Information Technology and Libraries*, 22(3), 100-104

[5] Hardy, J & et al. (2009). "ICT & the Student First Year Experience a Report from the LEaD Project." retrieved from http://www.jisc.ac.uk/media/documents/programmes /elearningpedagogy/leadfinalreport.pdf on dt. 03.11.2015

[6] Haywood, J. & et al. (2004). "The Student View of ICT in Education at the University of Edinburgh: skills, attitudes & expectations." Research Proceedings of the 11th Association for Learning Technology Conference (ALT-C 2004), 229-245. Retrieved from http://www.homepages.ed.ac.uk/jhaywood/papers/studentvi ews.pdf on dt. 03.11.2015

[7] Hoffman, M. & Blake, J. (2003). "Computer Literacy Today and Tomorrow.*" Journal of Computing Sciences in Colleges*, 18(5), 221-233

[8] Ipsos, MORI (2008). "Great expectations of ICT: How Higher Education Institutions are Measuring Up." retrieved from http://sitecore.jisc.ac.uk/media/documents/publications/jiscg reatexpectationsfinalreportjune08.pdf on dt. 03.11.2015

[9] Johnson, D. W. (2006). "Improving Computer Literacy of Business Management Major: A case study." Journal of Information Technology Education, 5, 77-94

[10] MacEuen, S. F. (2001). "How fluent with information technology are our students: A survey of students from southwestern university explored how FIT them seem themselves." EDUCASE, 4, 8-17, retrieved from http://www.educause.edu/ir/library/pdf/EQM0140.pdf on dt. 03.11.2015

[11] McLennan, Theresa & Gibbs, Shirley (2008). "Has the computing competence of first year university students increased during the last decade?" ASCILITE proceeding Melbourne, 633-640, retrieved from http://www.ascilite.org.au/conferences/melbourne08/procs/ mclennan.pdf on dt. 03.11.2015

[12] Tella, Adeyinka (2008). "Gender Difference in Computer Literacy among undergraduate students at the University of Botswana: Implications for Library Use." Malayasian Journal of Library and Information Science, 13(1), 59-76

[13] Templeton, W. K. (2003). "Computer skills proficiency testing in an Undergraduate Business College environment: A case study." retrieved from http://jlhpress.com/abe/proceedings03/templeton.pdf on dt.03.11.2015

[14] Seetharaman, N. (2012). "Assessing Computer Skills among Graduate Medical Students in South India." National Journal of Research in Community Medicine, 1(1), 1-60

[15] Zengeya, M. A. (2008). "Information and Communication Technology (ICT) Skills for Bachelor of Education Degree Students at the University of Zimbabwe: Implications for University Policy on a Computer Course for Undergraduate Student Teachers." Retrieved from http://ir.uz.ac.zw/jspui/bitstream/10646/626/1/ICT.pdf on dt. 03.11.2015

[16] http://wsww.pncollege.in on dt. 03.11.2015

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