



## ICT KNOWLEDGE AMONG THE FIRST GENERATION LEARNERS IN HIGHER EDUCATION

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### ABSTRACT

ICT, defined as a “diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information” (UNDP, 2000) and also, the term ‘First Generation Learners’ (FGL) refers to the students who are the first one in their entire generation to go to colleges and receive an education. These learners face a multitude of academic, psychological, socio-economic and cultural challenges. So, the use of ICT based system in education will increase the development and effectiveness of first generation learners learning methods. Survey method was taken up in this study. A questionnaire was used to collect the data. The sample consists of 147 students from 7 Arts and Science colleges affiliated to Bharathidasan University. Finding revealed that the ICT Knowledge among the First Generation Learners in Higher Education are average besides Science and Private college students have better ICT Knowledge than the Arts and Government college students. On the other hand, Gender did not place a major impact on the ICT Knowledge among the First Generation Learners in Higher Education.

**KEY WORD:** Information and Communication Technology, First Generation Learners, Higher Education.

### INTRODUCTION

Higher education is vital importance for the country, as it is a powerful tool to construct a Knowledge-based society. UNESCO (2007) defines “ICT refers to forms of technology that are used to send out, process, generate, store, display, share or replace information by electronic means. This broad definition of ICT includes such technologies as radio, video, television, telephone (both fixed line and cellular phones), DVD, satellite systems, and computer and network software and Hardware, as well as the equipment and services connected with these technologies, such as videoconferencing, e-mail and blogs”. As well as, the introduction of ICTs in the higher education has profound implications for the whole education process especially in dealing with key issues of access, equity, organization efficiency, pedagogy and quality. According to World Bank (2002), ICT consist of the hardware, software, networks, and media for collection, storage, processing, transmission and presentation of information (voice, data, text and images) as well as related services. First generation college students are those students whose parents have had no college or post secondary experiences (choy,2001;Warburton, Bugarin & Nunez 2001; pascarella.et.al. 2004). These learners face a multitude of academic, psychological, socio-economic and cultural challenges. According to the National Centre for Education Statistics (NCES, 2005) 34% of undergraduates were the first in their families to go to college in the 2011-12 academic year. An additional twenty eight percentage of undergraduates had parents with at least some institution experience but not a bachelor’s degree. Only



25% of first-generation students attended four-year professional courses. ICT provides an array of powerful tools that may help in transforming the challenges into rich interactive knowledge environments. So for these reasons ICT is very much necessary for first generation learners.

In this way, the present study makes its attempt to ascertain the ICT Knowledge among the First Generation Learners in Higher Education.

### RATIONALE OF THE STUDY

A good higher education system is important for the inclusive development of a nation. The Indian higher education system is facing an unparalleled transformation in the present scenario. UNESCO (2018) describes "Digital literacy is the ability to define access, manage, integrate, communicate, evaluate and create information safely and appropriately through digital technologies and networked devices for participation in economic and social life". Alam (2016) stated that ICT integration in higher education brings a change in student and teacher's learning behaviour and develops higher order skills such as solving complex real world problems and collaborating across time and place. Kumar (2012) revealed that the information technology may increase the broad contribution of the students in the process of achieving good education goals by providing the opportunity of online discussion groups and enhancing the fast development and effectiveness of the learning methods. Opinion of Ul-Amin (2013) is the adoption and uses of ICT in education have a positive impact on teaching, learning and also research. It is essential that computers be placed in the classroom since ICT environment improves the experience of the students and teachers. These possibilities can have an impact on the student performance and achievement. ICT provides powerful learning environments and can transform the teaching learning process so that the students can deal with knowledge in an active, self-directed and constructive way. Singh (2014) stated that now teacher has to perform various roles like supporting, encouraging, and facilitating in teaching-learning situations. First generation learners are the first one in their entire generation to go to school and to receive education. These children belong to the socio-economically disadvantaged communities. Due to their natural history they have been characteristics such as inferiority complex, lack of initiative, maladjustment and an underdeveloped trait (Ghosh, 2014). Thus, the need of the hour is to understand the gaps and failures in ICT Knowledge among the First Generation Learners in Higher Education.

### REVIEW OF RELATED LITERATURE

A literature review is termed as 'special need children', who are low on academic achievement, comprise critical analysis and comparison of prior research studies, reviews of literature, and theoretical articles. Further the researcher made an effort to interpret the reviews with reference to the present context of the study.

**Farheen (2017)** conducted a study on "ICT Knowledge of Student Teachers in relation to their Gender and Location" Data was collected from 600 student teachers. She found that there was a significant difference between the ICT knowledge of student teachers with regards to gender and location. **Singh (2012)** **Angadi (2014)** stated that male and female as well as science and arts teachers' of B.Ed colleges have significant difference in their attitudes towards ICT. **Surana&Jain (2016)** pointed out that the advantages of ICT in education which is lower cost, time saving, flexibility, faster reply, greater effectiveness, greater competitiveness and easy access to information and resources. **Beena & Mathur (2012)** explored that the male students possess significantly high awareness of ICT in education than female. **Tochukwu & Hocanin(2017)** pointed that the students of Information Technology (IT) Department of Eastern Mediterranean University (EMU) in Northern Cyprus. The analyses showed that there was a significant difference between male and female respondents on their awareness of the use of ICT tools, female students proved to be more active on the adoption of such ICT tools. **Verma & Dahiya (2016)** analysed present scenario of ICT awareness in terms of various factors like usability, availability, problems and solutions. The results of study has concluded that successful ICT integration will not only increase

productivity in Higher Education but also brighten the future of higher education. **Erdogan (2011)** stated that Teachers should not learn only how to use technology to enhance traditional teaching or increase also how ICT can be incorporated into teaching and learning process for promote student learning. Hence, teachers should keep an open mind about ICT integration in the classroom. So, teachers need to use ICT in more creative and productive ways for creating, engaging and rewarding activities and more effective lessons”.

**OBJECTIVES OF THE STUDY**

The major objectives of the study is to

1. Assess the level of ICT Knowledge among the First Generation Learners in Higher Education.
2. To find out the significant difference, if any in the ICT Knowledge among the First Generation Learners in Higher Education Institution with respect to their Gender, Discipline and Management of the college.
3. To evolve recommendations on the basis of findings for policy decisions.

**HYPOTHESES OF THE STUDY**

1. The level of ICT Knowledge among the First Generation Learners in Higher Education is low.
2. There is no significant difference, if any in the ICT Knowledge among the First Generation Learners in Higher Education Institution with respect to their Gender, Discipline and Management of the college.

**METHODOLOGY OF THE STUDY**

The study included a survey held with the help of a structured questionnaire with two sets of questions i) General Profile ii) Information and Communication Technology Knowledge Test (ICTKT). Stratified random sampling technique was used to collect the data. The survey design was adopted with the sample of 147 first generation learners from Arts and Science Colleges in Tiruchirappalli. Percentage analysis and ‘t’- test were used to analyze the data using SPSS Package.

**TOOL**

The standardized tool ‘Information and Communication Technology Knowledge Test (ICTKT)’ was adopted to collect the data which was developed by Dr. S.Rajasekar (2014). The questionnaire consists of 33objective type questions with five options. The maximum mark for a question is 1 and minimum mark is 0. Therefore one can get a maximum score of ‘33’ and a minimum score of ‘0’ for this test. Cronbach’s Alpha reliability coefficient for the tool is 0.891.

**RESULTS AND DISCUSSION OF THE STUDY**

**Descriptive Analysis**

This Descriptive analysis summarizes the data meaningfully. It is used to measure the central tendency and the variability of the research. Here this was done to measure the ICT knowledge of first generation learners.

**Hypothesis 1**

The level of ICT Knowledge among the First Generation Learners in Higher Education is low.

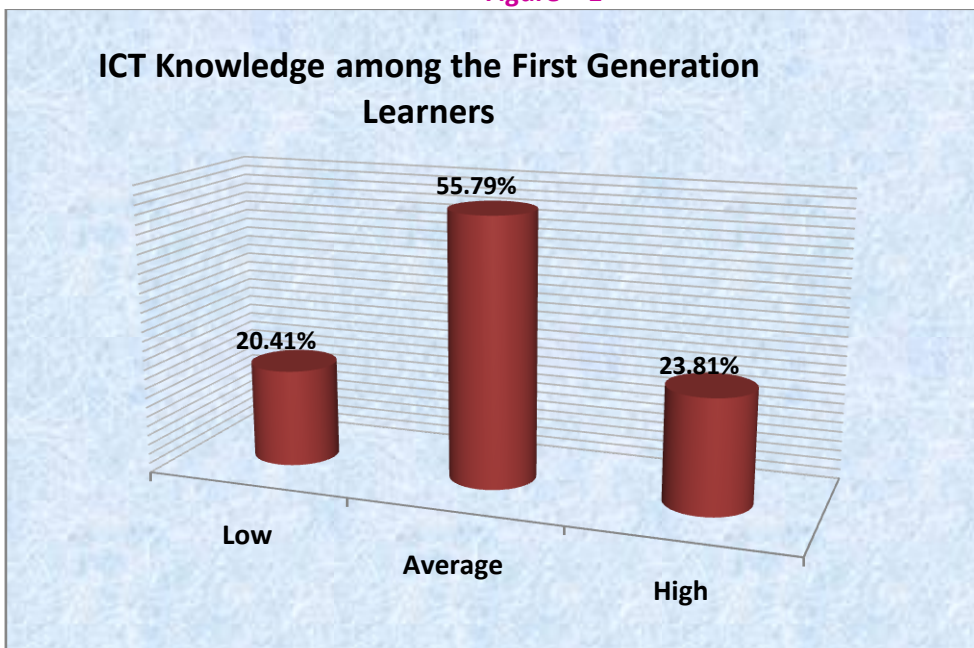
**Table – 1 Percentage Analysis of ICT Knowledge**

Variable name	N	Low		Average		High	
		N	%	N	%	N	%
ICT Knowledge	147	30	20.41	82	55.79*	35	23.81

\* indicates the level of ICT Knowledge

The Table 1 indicates that the 20.41% of First Generation Learners in the sample have low ICT Knowledge, 55.79% of First Generation Learners in the sample have Average ICT Knowledge, and 23.81% First Generation Learners in the sample have High ICT Knowledge. It is inferred that the level of ICT Knowledge among the First Generation Learners in Higher Education is Average. The level of ICT Knowledge among the First Generation Learners in Higher Education is graphically represented in Figure 1.

Figure – 1



**Differential Analysis**  
**Hypothesis: 2**

There is no significant difference, if any in the ICT Knowledge among the First Generation Learners in Higher Education Institution with respect to their Gender, Discipline and Management of the college.

Table -2: Differential analysis of ICT Knowledge

Variables		N	Mean	Standard Deviation	't'-value	Significance at 0.05level
<b>Gender</b>	Male	80	14.51	5.03	0.411	Not Significant
	Female	67	14.82	3.84		
<b>Discipline</b>	Science	68	16.36	3.50	4.547	Significant
	Arts	79	13.17	4.78		
<b>Management of the College</b>	Private	70	15.98	3.82	3.541	Significant
	Government	77	13.44	4.77		

From the table– 2, It is observed that the calculated 't' value 0.411 is less than the table value (1.96) at 0.05 level. Hence, the formulated null hypothesis is accepted. It is concluded that there is no significant difference between First Generation Male and Female learners in Higher Education with regard to ICT Knowledge.

It can be seen that the calculated 't' value 4.547 is greater than the table value (1.96) at 0.05 level. Therefore the formulated null hypothesis is rejected. Further, it is concluded that there is a significant

difference between First Generation Arts and science learners in Higher Education with regard to ICT Knowledge. Hence, Science students are better than Arts students in ICT knowledge.

Also, the table indicates that the 't' test (3.541) is greater than the table value (1.96) at 0.05 level. Therefore the formulated null hypothesis is rejected. Further, it is concluded that there is a significant difference between the private college First Generation learners have better ICT knowledge than that the Government colleges.

### FINDINGS OF THE STUDY

1. ICT Knowledge among the First Generation Learners in Higher Education is Average
2. There is no significant difference between First Generation Male and Female learners in Higher Education with regard to ICT Knowledge
3. There is a significant difference between First Generation Arts and science learners in Higher Education with regard to ICT Knowledge
4. There is a significant difference in First Generation learners of Government and private colleges with regard to ICT Knowledge

### RECOMMENDATIONS AND SUGGESTIONS

- Workshops can be organized to bring up the technological knowledge of the higher education students.
- By providing sufficient financial resources for upgrading infrastructural facilities for ICT integration.
- ICT integration in teaching and learning should be included in higher education curriculum at all levels.

### CONCLUSION AND DISCUSSION

ICT is one of the major factors for producing the rapid changes in our society. The use of ICT can develop the quality of education, expand learning opportunities and make education accessible. It can also change the nature of education and roles of teacher and student in teaching learning process. This study has identified 55.79% of students falls under the average category of Knowledge towards ICT. Also, Arts and Government college students have low ICT Knowledge comparing with Science and Private college students. The demographic variables Gender did not have a major impact on the Knowledge towards ICT among the First Generation Learners in Higher Education. There is no doubt that allocation of qualified and trained human resources, adequate financial resources and supporting educational policies are some of the important requisites to have outcome oriented integrated higher education.

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