



## INFORMATION LITERACY SKILLS OF SECONDARY LEVEL TEACHER TRAINEES

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### Abstract

*Information literacy skills are essential for students at all levels of higher education especially for teacher trainees. We live in the modern world where information environment is very complex and versatile due to the tremendous growth of information sources. Individuals who are well informed about finding, evaluating, analyzing, integrating, managing, and conveying information to others efficiently and effectively will be more successful in life. The present study was intended to the information literacy skills of secondary level teacher trainees. The sample used for the study was 400 secondary teacher trainees of Kottayam District. The study reveals that most of the Secondary Level Teacher Trainees of the sample population possess average Information Literacy Skills.*

**Key Words:** *Information Literacy Skills, Information Sources, Teacher Education, Teacher Trainees*

### Introduction

The access and evaluation of information is the characteristics of the modern era. This century is known as Information Age due to availability of abundance of information in various sources. Innovative technologies have provided new dimensions to learning. The ability to apply the right knowledge effectively is an important skill and is the

cornerstone of our success. Nobody can learn everything at the time of his or her school and college studies. Information literacy skills equip them to develop into independent lifelong learners. The National Curriculum Framework has emphasized the need for the teachers to be evolved as self-learners. Equipping teachers and students with the latest information resources and

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their technologies, training them to access, evaluate and effectively use the resources are most important in any academic environment.

Information literacy (IL) was accepted by the Alexandria Proclamation of 2005 as essential quality for individuals to achieve personal, social, occupational and educational goals (IFLA 2005). This declaration argues that information literacy skills are necessary for people to be effective lifelong learners and to contribute in knowledge societies. Access to information is a right for people and Information Literacy is essential for them to apply this right. Individuals who are well informed about finding, evaluating, analyzing, and integrating, managing, and conveying information to others efficiently and effectively are successful in life. Information literate students, faculty, and general public were most successful for solving problems, giving solutions, and budding new ideas and directions for the future.

### **Need and Significance of the Study**

Information is the basic requirement for every human activity and it is important as food, air and water. Information in itself has no value, but its value lies in its communication and use (Jayaprakash and Gupta, 2005). The information becomes flourished, uncontrolled, diversified and commoditized in the global digital world. People have to deal with enormous quantity of complicated information where and also consider the questions of authenticity, accuracy, ethics, reliability and validity. No curriculum in higher education is adequate for helping the students to build up the ability to deal with the growing information in their respective fields.

Information literacy is a necessary skill to recognize and solve information problems, and can be acquired from using different information sources. Student teachers in teacher education colleges need to develop information literacy skills for transforming information into knowledge. This would lead to independent and self-directed learning rather than classroom teaching learning process. The quality of teaching, research and services of teachers towards students and community depends on the wide knowledge of teachers. Everyone in education system especially teachers, information professionals, and students are depending on information.

All the educational institutions are harnessing the fast developments in computer and networking to effectively provide digital information in their libraries. Most of the academic libraries have now days changed into hybrid libraries, In addition to traditional services; libraries are providing on line and offline access to information sources. So the Information literacy is therefore essential for students and teachers in the higher education sector to cope with new online services. Without the training it is very hard to access and use the e-information sources effectively. It is necessary for users to have the mandatory skills to obtain relevant information quickly and effectively from digital sources and become Information literate.

### **Objectives of the Study**

- To study the information literacy skills of Secondary Level Teacher Trainees of Kottayam District.
- To find out the significant difference in information literacy skills among

Secondary Level Teacher Trainees of Kottayam District with respect to gender.

- To find out the significant difference in information literacy skills among Secondary Level Teacher Trainees of Kottayam District with respect to different stream of disciplines
- To find out the significant difference in information literacy skills among Secondary Level Teacher Trainees of Kottayam District with respect to type of management

### **Hypothesis**

- There exists a significant difference in information literacy skills among the Secondary Level Teacher Trainees with respect to gender.
- There exists a significant difference in information literacy skills among Secondary Level Teacher Trainees with respect to their streams of disciplines.
- There exists a significant difference in information literacy skills among the Secondary Level Teacher Trainees with respect to the type of management.

### **Methodology**

The study follows a descriptive survey method to find out the information literacy skills and academic achievement of Secondary Level Teacher Trainees of Kottayam District with regard to gender, type of management and streams of disciplines.

### **Tool Used for the Study**

The investigator used the self-constructed tool titled 'Information Literacy Test' for the present study

### **Sample of the Study**

The sample consists of 400 Secondary Level Teacher Trainees in Kottayam district selected by giving due weight age to the type of management of the institution, academic discipline and gender. The Stratified sampling technique was used for the selection of the sample.

### **Statistical Technique**

The following statistical techniques were employed for the analysis of data collection

1. Mean
2. Frequency Distribution
3. Standard Deviation
4. 't'-test
5. ANOVA

### **Analysis and Interpretation**

Distribution of the scores on information literacy skills among the Secondary Level Teacher Trainees

The investigator formulated the first objective stated, 'To study the information literacy skills among the Secondary Level Teacher Trainees'. The investigator collected the data pertaining to the objective by administering the self-constructed tool titled 'Information Literacy Test' on four hundred students of Secondary Level Teacher Trainees.

The investigator employed descriptive statistics namely frequency distribution, mean, standard deviation for the analysis of the data pertaining to the objective. The distribution of scores on information literacy skills among Secondary Level Teacher

Trainees is presented in the Frequency Distribution Table 1.

Table 1

*Distribution of the scores on information literacy skills among the Secondary Level Teacher Trainees*

Class Interval	Frequency	Percentage
5-9	14	3.5
10-14	122	30.5
15-19	163	40.75
20-24	81	20.25
25-29	20	5
Above 29	0	0
Total	400	100

Table 1 shows that 100% of the total sample of Teacher Trainees lie below the score 29. No Teacher Trainees scores above 29. Most of the Teacher Trainees fall in the class interval 15-19.

The Descriptive Statistics employed for the distribution of the scores on information literacy skills is presented in Table 2.

Table 2

*Variable, number of students, maximum score, minimum score, mean and standard deviation of the scores on information literacy skills with regard to gender, type of management and streams of disciplines*

Variable	Category	Number	Mean	S.D.
Infor- mation	Male	76	17.80	3.56
	Female	324	16.44	4.48
Literacy Skills	Aided	167	19.25	4.43
	Unaided	133	15.74	2.83
	UCTE	100	13.72	3.39
	Science	183	16.39	4.25

Humanities	163	17.00	4.76
Commerce	54	16.81	3.23
Total Sample	400	16.69	4.35

From the Table 2, it is observed that the Means of scores on information literacy skills for the total sample is 16.69 and the Standard Deviation is 4.35. The Means of scores on information literacy skills of Males (17.80) is greater than that of Girls (16.44). The Means of scores on information literacy skills of Students of Aided Teacher Education Colleges (19.25) is greater than that of Students of Unaided Colleges (15.74) and Students of UCTE (13.72). The Means of Scores on information literacy skills of Humanities Stream (17) is slightly greater than Commerce (16.81) and Science (16.39) Stream.

From Table 2 the Means of Scores on information literacy skills among the Secondary Level Teacher Trainees with regard to gender, type of management and streams of discipline can be observed separately. The Means of information literacy skills is different for all the students and it can be interpreted that there is significant difference in the scores on information literacy skills with regard to gender, type of management and streams of disciplines.

### **Classification of Total Sample of the Students based on their Information Literacy Skills**

It is desirable to classify the Secondary Level Teacher Trainees based on their scores of information literacy skills. The investigator classified the whole sample based on the

scores obtained in the tool titled ‘Information Literacy Test’. The classification is as follows.

- Above  $M + 1\sigma$  denotes High Information Literacy Skills
- Between  $M + 1\sigma$  and  $M - 1\sigma$  denotes Average Information Literacy Skills
- Below  $M - 1\sigma$  denotes Low Information Literacy Skills

Where  $M$  is the Mean of Scores of information literacy skills and  $\sigma$  is the standard deviation of the scores of information literacy skills. Therefore  $M + 1\sigma$  are 21 and  $M - 1\sigma$  is 13. So the Range above 21 is considered as high information literacy skill and between 21 and 13 are considered as average information literacy skill. The the total sample is presented in the Table 3

Table 3

*Classification of the total sample of students based on Information Literacy Skills*

Level of Information Literacy Skills	Range	Number of Students	Percentage
High	>21	62	15.5
Average	Between 21 and 13	282	70.5
Low	<13	56	14
Total		400	100

From the table 3, it is observed that the range above 21 is considered as students with high information literacy skills, the range below 13 is considered as students with low information literacy skills and the range between 21 and 13 are considered as students with average information literacy skills.

Thus the investigator interprets that 62 students scored above 21, they constitute 15.5% of the total sample and possess high Information Literacy Skills. 56 students of information literacy skills of Secondary Level Teacher Trainees scored below 13 constituting 14% of total sample, they possess Low Information Literacy Skills. 282 students scored between 21 and 13. They possess Average information literacy skills that is 70.5% of students of total sample.

Therefore the investigator concluded that majority of Secondary Level Teacher Trainees that is 282 or 70.5% of total sample possess Average information literacy skills. Thus from the analysis of the first objective, the investigator concludes that 15.5 % Secondary Level Teacher Trainees have high information literacy skills, 14% have low information literacy skills and 70.05% Teacher Trainees possess average information literacy skills. It reveals that most of the Secondary Level Teacher Trainees of the total sample possess average Information Literacy Skills.

Gender wise Comparison of the Means of Scores on Information Literacy Among Secondary Level Teacher Trainees

The objective of the study was ‘to find out the significant difference in information literacy skills among Secondary Level Teacher Trainees of Kottayam District with respect to gender’. For the analysis of this objective the investigator formulated the null hypothesis  $H_01$

**Null Hypothesis  $H_01$ :** ‘There exists no significant difference between the Means

Table 4

*The Number (N), Mean, Standard Deviation, ‘t’ value and ‘p’ value of the Scores on information literacy skills among Secondary Level Teacher Trainees*

Variable	Category	N	Mean	SD	df	tvalue	p value	Remarks
Information Literacy Skills	Male	76	17.80	3.56	398	2.47	.014	Significant at .05 level
	Female	324	16.44	4.48				

From the data presented in Table 4 it is observed that the obtained ‘t’ value of information literacy among Secondary Level Teacher Trainees with respect to Gender is 2.47 and the obtained ‘p’ value is .014

From the above Table 3 the investigator interprets that the obtained ‘t’ value is 2.47, is greater than the table value 1.96 at .05 level of significance and p value is .014, which is less than .05 with degrees of freedom 398. It shows that there is a significant difference between the Means of Scores on information literacy skills among male and female Secondary Level Teacher Trainees. The study found that the t value obtained on information literacy skills with respect to Gender ( $t_{(400)}=2.47, p < .05$ ) is significant at .05 level. Thus the null hypothesis ‘there exists no significant difference in the means of scores on information literacy skills among Secondary

of Scores on information literacy skills among Secondary Level Teacher Trainees with respect to Gender’.

In order to test the null hypothesis the investigator used two-tailed t-test for large independent sample. The t value was set as 1.96 at .05 level of significance with degrees of freedom 398 (N=400). The data and results are presented in the Table 4

Level Teacher Trainees with respect to gender’ is not accepted.

The study revealed that there exists a significant difference in the means of scores on information literacy skills among Secondary Level Teacher Trainees with respect to Gender.

Comparison of Means of Means of Scores on Information Literacy Skills with respect to Different Streams of Discipline

The next objective was to study whether student teachers belonging to different streams of disciplines are differ in information literacy skills among Secondary Level Teacher Trainees of Kottayam District. For the analysis of this objective the investigator formulated the null hypothesis  $H_02$

**Null Hypothesis  $H_02$ :** ‘There exists no significant difference between the means of scores on information literacy among the

Secondary Level Teacher Trainees with respect to streams of disciplines’.

The investigator tested the null hypothesis using one-way analysis of

variance (One Way ANOVA). The value of *F* was set as 3.02 at 015 level of significance with degrees of freedom between groups as 2 and within the group as 397. The data and results are presented in Table 5

Table 5

*Variable, Category, Number, Mean and Standard Deviation of the Scores on information literacy skills among the Secondary Level Teacher Trainees with respect to Streams of Disciplines*

Variable	Category	N	Mean	SD
Information Literacy Skills	Science	183	16.39	4.25
	Humanities	163	17.00	4.76
	Commerce	54	16.81	3.23
	Total	400	16.69	4.35

From Table 5, it is clear that the Means of Scores on information literacy skills of the science, humanities and commerce students of Teacher Education Colleges is 16.39, 17 and 16.81 respectively. The standard deviation of scores on information literacy skills of the science, humanities and commerce students of Teacher Education Colleges is 4.25, 4.76 and 3.23 respectively.

The findings of the study on Variable, Category, Sum of Squares, Mean Square and *F* value of the scores on information literacy skills among the Secondary Level Teacher Trainees with respect to Streams of Discipline are presented in Table 5

Table 5

*Variable, Category, Sum of Squares, Degrees of Freedom, Mean Square, F value and p value of the Scores on information literacy skills among the Secondary Level Teacher Trainees with respect to Streams of Discipline*

Variable	Category	SS	df	MS	F value	p value
Information Literacy Skills	Between Group	32.58	2	16.29	.860	.424
	Within Group	7515.82	397	18.932		
	Total	7548.39	399			

Note: *SS* – Sum of Squares; *MS* – Mean Square

Data presented in Table 5, reveals that the obtained *F* value ( $F_{(3,02)} = .860, p > .05$ )

is found to be not significant at .05 level. It indicates the means of scores on

information literacy skills among the Secondary Level Teacher Trainees with respect to stream of discipline do not differ significantly. Thus the null hypothesis  $H_0$ : ‘There exists no significant difference between the Means Of Scores On Information Literacy among the Secondary Level Teacher Trainees with respect to streams of disciplines’ is accepted.

The study found that that the streams of disciplines has no significant influence on information literacy skills among Secondary Level Teacher Trainees.

Comparison of Means of Means of Scores on Information Literacy Skills Among Secondary Level Teacher Trainees with Respect to Type of Management

Table 6

*Number, Mean, Standard Deviation of information literacy skills among the Secondary Level Teacher Trainees with respect to Type of Management*

Variable	Type of Management	Number	Mean	Standard Deviation
Information Literacy Skills	Aided	167	19.25	4.43
	UCTE	133	15.74	2.83
	Unaided	100	13.72	3.39
	Total	400	16.69	4.35

A Table 6 show the mean difference of Aided Teacher Education Colleges is 19.25, of University Teacher Education Colleges is 15.74 and of Unaided Teacher Education Colleges is 13.72. The standard deviation of scores on information literacy skills of Students in Aided, UCTE and Unaided Teacher Education Colleges is 4.43, 2.83 and 3.39 respectively.

The objective was to find out the significant difference in information literacy skills among Secondary Level Teacher Trainees of Kottayam District with respect to type of management. For the analysis of data, the investigator has formulated the null hypothesis, as ‘there exists no significant difference in the means of scores on information literacy skills among Secondary Level Teacher Trainees with respect to Type of Management’.

In order to analyze the null hypothesis, the investigator used Analysis of Variance (ANOVA). The value of  $F$  was set as 3.02 for 0.05 level of significance with degrees of freedom between groups 2 and that of within group as 397. The result is given in the Table 6

The Analysis of variance table to find out the  $F$  value determines the significant difference in the Means of Scores of information literacy skills among the Secondary Level Teacher Trainees, with respect to type of management.

The variable, means of scores and  $F$  value on information literacy skills among Secondary Level Teacher Trainees is given in Table 7



Table 7

*Variable, Category, Sum of Squares, Degrees of Freedom, Mean Square, F value and p value of the Scores on information literacy skills among the Secondary Level Teacher Trainees with respect Type of Management*

Variable	Group	SS	df	MS	F value	p value	Remarks
Information Literacy Skills	Between Groups	2093.51	2	1046.76	76.18	.000	Significant at .05 level
	Within Groups	5454.88	397	13.74			
	Total	7548.39	399				

From the data provided in Table 7, it was observed that, the calculated  $F$  value 76.18 is greater than that of table value 3.02 at .05 level of significance with degrees of freedom 2/397. In view of this, the null hypothesis 'There exists no significant difference between the means of the scores of information literacy skills among the

Secondary Level Teacher Trainees with respect to type of management' is accepted.

The investigator used multiple comparisons for the different pairs of information literacy skills among Secondary Level Teacher Trainees on the basis of type of management. The multiple comparisons of various managements are given in the Table 8

Table 8

*Multiple comparisons of different pairs of information literacy skills among Secondary Level Teacher Trainees with respect to Type of Management*

Type of Management	Mean	Standard Error	p value	Remarks	
Aided	UCTE	3.51	0.431	.000	Significant at .05 level
	Unaided	5.53	0.469	.000	
UCTE	Aided	3.51	0.431	.000	
	Unaided	2.02	0.491	.000	
Unaided	Aided	5.53	0.469	.000	
	UCTE	2.02	0.491	.000	

From the data presented in Table 8 it was observed that;

- There is significant difference between the Means of Scores of information literacy skills among Secondary Level Teacher Trainees of Aided and University College of Teacher Education.
- There is significant difference between the means of scores of information

literacy skills among Secondary Level Teacher Trainees of Aided and Unaided Teacher Education Colleges.

- There is significant difference between the means of scores of information literacy skills among Secondary Level Teacher Trainees of Unaided and University College of Teacher Education.

From the analysis it can be concluded that there is significant difference in the information literacy skills among Secondary Level Teacher Trainees with respect to Type of Management.

### Findings

1. The study revealed that most of the Secondary Level Teacher Trainees of the total sample possess average information literacy skills.
2. There exists a significant difference in the means of scores on information literacy skills among Secondary Level Teacher Trainees with respect to Gender.
3. The stream of disciplines has no significant influence on information literacy skills among Secondary Level Teacher Trainees.
4. There is significant difference between the means of scores of information literacy skills among Secondary Level Teacher Trainees of Aided and University College of Teacher Education.
5. There is significant difference between the means of scores of information literacy skills among Secondary Level

Teacher Trainees of Aided and Unaided Teacher Education Colleges.

6. There is significant difference between the means of scores of information literacy skills among Secondary Level Teacher Trainees of Unaided and University College of Teacher Education.
7. There is significant difference in the information literacy skills among Secondary Level Teacher Trainees with respect to type of management.

### Conclusion

The findings of the study presented above can provide an approximate idea of information literacy skills of the present day teacher trainees. The aspects identified by the study reveal that most of the Secondary Level Teacher Trainees of sample population possess average information literacy skills. It was also found that there is a significant difference in the means of scores on information literacy skills among Secondary Level Teacher Trainees with respect to gender and type of management. It also reveals the stream of disciplines has no significant influence on information literacy skills among Secondary Level Teacher Trainees.

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