

# Information Literacy and Academic Performance among Secondary Level Student Teachers in Aided Teacher Education Colleges

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**Abstract – Information Literacy is a vital skill for twenty-first-century teachers and students in all higher education. Accessing information is a fundamental right for people, and Information Literacy is essential for them to apply this right. Individuals who are well-informed about finding, evaluating, analyzing, integrating, managing, and conveying information to others efficiently and effectively are successful in life. Information literate students, faculty, and the general public were most efficient for answering queries, providing clarifications, and budding new concepts and thoughts for the future. The present investigation aimed to examine information literacy among secondary level Student Teachers. The method adopted for the collection of data from different Aided Teacher Education colleges was Normative Survey.**

**Key Words: Academic Achievement, Information Literacy, Information Competence, Student Teachers, Teacher Education.**

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## 1. INTRODUCTION

Information considered as the most significant factor in the development of human resources which is the basis for national development. Data and information is a vital resource in the development activities of a nation. It plays a crucial role in our professional and personal lives. The access and evaluation of information are the characteristics of the contemporary period. We live in the modern world where the 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 are successful in life.

Advanced technologies have encountered new dimensions of learning. The ability to apply the right knowledge effectively is an important skill and the cornerstone of our success. Nobody can acquire everything at the school and college time of their studies. Information literacy skills equip them to develop into independent lifelong learners. The National Curriculum Framework has highlighted the need for the teachers to be promoted as self-directed learning. Encouraging teachers and students with the latest information resources and technologies, training them to access, evaluate and effectively use the

information resources is essential for any academic environment.

The Alexandria Proclamation of 2005 reported Information literacy (IL) as a necessary and imperative skill for individuals in achieving personal, social, professional and academic goals (IFLA 2005). This declaration demonstrates that Information Literacy Skills are essential for people to be competent lifelong learners and to contribute to information communities. Information Access is a right for people, and Information Literacy is necessary for them to apply this right. Individuals who are well-informed about finding, evaluating, analyzing, integrating, managing, and conveying information to others efficiently and effectively are successful in life.

## 2. OBJECTIVES OF THE STUDY

1. To study the Information Literacy among Secondary Level Student Teachers in the Aided Teacher Education Colleges
2. To find out the significant difference in Information Literacy among Secondary Level Student Teachers in the Aided Teacher Education Colleges based on gender.

3. To find out the significant difference in Information Literacy among Secondary Level Student Teachers in the Aided Teacher Education Colleges based on different Stream of Disciplines
4. To find out the relationship between Information Literacy and Academic Performance among Secondary Level Student Teachers in the Aided Teacher Education Colleges

### 3. HYPOTHESIS

1. There exists a significant difference in Information Literacy among Secondary Level Student Teachers in the Aided Teacher Education Colleges based on gender.
2. There exists a significant difference in Information Literacy among Secondary Level among Secondary Level Student Teachers in the Aided Teacher Education Colleges based on different Stream of Disciplines
3. There exists a significant relationship between Information Literacy and Academic Performance among Secondary Level Student Teachers in the Aided Teacher Education Colleges

### 4. METHODOLOGY

All the Student Teachers studying B.Ed Course in the Teacher Education Colleges in the aided sector in the Kerala State are constituted for the population of the present study. It follows a normative survey method to find out the Information Literacy among Secondary Level Student Teachers Trainees with regard to Gender and Streams of Disciplines in Aided Teacher Education Colleges. The sample consists of 479 Secondary Level Student Teachers in Kerala State selected by giving due weightage to the type of management of the institution, academic discipline and gender. The Stratified sampling technique was used for the selection of the sample.

#### 4.1 Tool Used for the Study

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

#### 4.2 Sample of the Study

The sample consists of 479 Secondary Level Student Teachers in studying in Aided Teacher Education Colleges of different districts of Kerala selected by giving due weightage to the nature of institutional management, educational discipline and gender. The sampling method used here Stratified sampling technique was used for the selection of the sample.

### 4.3 Statistical Technique

The following statistical techniques like Mean, Frequency Distribution, Standard Deviation, 't'-test, One Way ANOVA and Karl Pearson 's Product Moment  $r$  used for analyzing and interpretation of the data collected for the study.

## 5. ANALYSIS AND INTERPRETATION

### 5.1. Distribution of the Scores on Information Literacy among the Secondary Level Student Teachers

The first objective of the Study is "To study Information Literacy among the Secondary Level Student Teachers in the Aided Teacher Education Colleges". The investigator obtained the data relating to the objective by administering the self-constructed tool titled "Information Literacy Test" on Four Hundred and Seventy Nine Secondary Level Student Teachers.

The researcher applied Descriptive Statistics, namely Frequency Distribution, Mean, Standard Deviation for the analysis of the data about the objective. The investigator presents the distribution of scores on Information Literacy among Secondary Level Student Teachers in the Frequency Distribution Table 1.

Table 1

#### *Distribution of the scores on Information Literacy among the Secondary Level Student Teachers in Aided Teacher Education Colleges*

Class Interval	Frequency	Percentage %
5-15	14	2.91
16-25	169	35.27
26-35	270	56.36
36-45	26	5.46
Total	400	100

Table 1 shows that only 5.46% of the total sample of Student Teachers lie above the score 36. No Teacher Trainees scores below 5. Most of the Student Teachers fall in the class interval 26-35. 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 Based on Gender, and Streams of Disciplines**

Variable	Category	Number	Mean	S.D.
Information Literacy	Male	59	28.99	5.14
	Female	420	26.41	5.75
	Science	285	27.13	4.25
	Arts	101	25.34	4.76
	Languages	93	27.02	3.23
	Total Sample	479	26.73	5.73

From the Table 2, it is observed that the Means of scores on Information Literacy Skills for the total sample is 26.73 and the Standard Deviation is 5.73. The Means of scores on Information Literacy Skills of Males (28.99) is greater than that of Girls (26.41). The Means of Scores on Information Literacy Skills of Science Stream (27.13) is slightly greater than Language (27.02) and Arts (25.34) Stream.

From Table 2 the Means of Scores on Information Literacy among the Secondary Level Student Teachers based on Gender and Streams of Discipline can be perceived separately. The Means of Information Literacy Skills is diverse for all the Students and it can be understood that there is significant difference in the scores on Information Literacy Skills based on Gender and Streams of Disciplines.

## 5.2. Information Literacy among Secondary Level Student Teachers in the Aided Teacher Education Colleges Based on Gender

The objective of the study was “to find out the significant difference in Information Literacy among Secondary Level Student Teachers in the Aided Teacher Education Colleges based on gender.” For the analysis of this objective the investigator formulated the null hypothesis  $H_01$

**Null Hypothesis  $H_01$ :** “There exists no significant difference in Information Literacy among Secondary Level Student Teachers in the Aided Teacher Education Colleges based on 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 2.59 at 0.01 level of significance with degrees of freedom 477 ( $N=479$ ). The data and results are presented in the Table 4

Table 4

**The Number (N), Mean, Standard Deviation, ‘t’ value and ‘p’ value of the Scores on Information Literacy Skills among Secondary Level Student Teachers**

Variable	Category	N	Mean	SD	df	t value	p value
Information Literacy Skills	Male	59	28.98	5.14	477	3.26	.001
	Female	420	26.41	5.74			

From Table 4 the investigator observes that the obtained ‘t’ value of Information Literacy among Secondary Level Student Teachers with respect to Gender is 3.26 and the obtained ‘p’ value is .001

From the above Table 4 the investigator interprets that the obtained ‘t’ value is 3.26, is greater than the table value 2.59 at 0.01 level of significance and p value is .001 which is less than .01 with degrees of freedom 477. It shows that there is a significant difference between the Means of Scores on Information Literacy Skills among Male and Female Secondary Level Student Teachers. The investigator observes that the t value obtained on Information Literacy Skills with respect to Gender ( $t_{(479)}=3.26$ ,  $p<.01$ ) is significant at .01 level. Thus the null hypothesis “there exists no significant difference in the Means of Scores on Information Literacy Skills among Secondary Level Student Teachers with respect to Gender” is not accepted.

Thus the investigator concludes that there exists a significant difference in the Means of Scores on Information Literacy Skills among Secondary Level Student Teachers with respect to Gender.

## 5.3. Comparison of Means of Means of Scores on Information Literacy Skills with Respect to Different Streams of Discipline

The next objective was 3. To find out the significant difference in Information Literacy among Secondary Level among Secondary Level Student Teachers in the Aided Teacher Education Colleges based different Stream of Disciplines. For the analysis of this objective the investigator formulated the null hypothesis  $H_02$

**Null Hypothesis  $H_02$ :** “There exists no significant difference in Information Literacy among Secondary Level among Secondary Level Student Teachers in the Aided Teacher Education Colleges based different Stream of Disciplines”.

The investigator tested the null hypothesis using one way analysis of variance (One Way ANOVA). The value of F was set as 3.01 at .05level of significance with degrees of freedom between groups as 2 and

within the group as 477. The data and results are presented in Table 4

**Table 4**

**Variable, Category, Number, Mean and Standard Deviation of the Scores on Information Literacy Skills among the Secondary Level Student Teachers with respect to Streams of Disciplines**

Variable	Category	N	Mean	SD
Information Literacy Skills	Science	285	27.13	5.16
	Arts	101	25.34	6.09
	Languages	93	27.02	6.74
	Total	479	26.73	5.73

From Table 4, it is clear that the Means of Scores on Information Literacy Skills of the Science, Arts and Language students of Teacher Education Colleges is 27.13, 25.34 and 27.02 respectively. The standard deviation of scores on Information Literacy Skills of the Science, Arts and Language students of Teacher Education Colleges is 5.16, 6.09 and 6.74 respectively.

The investigator presents Variable, Category, Sum of Squares, Mean Square and *F* value of the scores on Information Literacy Skills among the Secondary Level Student Teachers with respect to Streams of Discipline 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 Student Teachers with respect to Streams of Discipline**

Variable	Category	SS	df	MS	<i>F</i> value	<i>p</i> value
Information Literacy Skills	Between Group	248.75	2	124.377	3.830	.022
	Within Group	15455.96	476	32.471		
	Total	15704.72	478			

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

From Table 5, the investigator observes that the obtained *F* value ( $F_{(2, 476)} = 3.830$ ,  $p > .05$ ) is found to be significant at .05 level. It indicates the Means of Scores on Information Literacy Skills among the Secondary Level Student Teachers with respect to Stream of Discipline differ significantly. Thus the null hypothesis  $H_0$ : “There exists no significant difference in Information Literacy among Secondary Level among Secondary Level Student Teachers in the Aided Teacher Education Colleges based different Stream of Disciplines” is not accepted.

From the value the investigator concludes that the Streams of Disciplines has significant influence on Information Literacy Skills among Secondary Level Student Teachers.

The investigator used multiple comparisons for the different pairs of Information Literacy Skills among Secondary Level Student Teachers on the basis of Streams of Disciplines. The multiple comparisons of various disciplines are given in the Table 6

**Table 6**

**Multiple comparisons of different pairs of Information Literacy Skills among Secondary Level Student Teachers with respect to Type of Management**

Streams of Discipline		Mean Difference	Standard Error	<i>p</i> value
Science	Arts	1.789*	.659	.019
Science	Languages	.105	.681	.987
Languages	Arts	1.685	.819	.100

From Table 6 the investigator observes that;

- There is significant difference between the Means of Scores of Information Literacy Skills among Secondary Level Student Teachers of Science and Arts Student Teachers of Aided College of Teacher Education.
- There is no significant difference between the Means of Scores of Information Literacy Skills among Secondary Level Student Teachers of Science and Languages Student Teachers of Aided College of Teacher Education.
- There is no significant difference between the Means of Scores of Information Literacy Skills among Secondary Level Student Teachers of Languages and Arts Student Teachers of Aided College of Teacher Education.

### 5.3 Relationship between Information Literacy and Academic Performance among Secondary Level Aided Student Teachers

The third objective of the study was to find out the relationship between Information Literacy and Academic Performance among Secondary Level Student Teachers in the Aided Teacher Education Colleges. For the analysis the investigator formulated the null hypothesis.

**Null Hypothesis  $H_0$  3:** There exists no significant relationship between Information Literacy and Academic Performance among Secondary Level



## Student Teachers in the Aided Teacher Education Colleges

The data concerning to this objective was analysed using Karl Pearson's Product Moment Correlation  $r$ . The  $r$  value was set as 0.115 at 0.01 level of significance for degrees of freedom 477. The Karl Pearson's Product Moment Correlation  $r$  value between the scores on Information Literacy and Academic Performance among the students of secondary level teacher trainees is presented in Table 7

**Table 7**

### ***Relationship between Information Literacy and Academic Performance among Secondary Level Aided Student Teachers***

Variables	Number	df	Correlation( $r$ )	$p$ value
Information Literacy Academic Performance	479	477	.739**	.000

\*\*significant at 0.01 level

From Table 7, it is clear that the obtained  $r$  value 0.739 shows a positive correlation between Information Literacy and Academic Performance. In the view of this result, the null hypothesis  $H_0$  3 "There exists no significant relationship between Information Literacy and Academic Performance among Secondary Level Student Teachers in the Aided Teacher Education Colleges" is not accepted. Based on the analysis it can be concluded that there exists a significant relationship between Information Literacy and Academic Performance among the Secondary Level Student Teachers.

## 6. FINDINGS

1. The study reveals that most of the Secondary Level Student Teachers possess Moderate Information Literacy Skills.
2. There exists a significant difference in the Means of Scores on Information Literacy Skills among Secondary Level Student Teachers with respect to Gender.
3. There is significant difference between the Means of Scores of Information Literacy Skills among Secondary Level Student Teachers of Science and Arts Student Teachers at Aided Teacher Education Colleges.
4. There is significant relationship between Information Literacy Skills and Academic Performance among Secondary Level Student Teachers in the Aided Teacher Education Colleges.

## 7. CONCLUSION

The conclusions of the study provide a short image of the present day Student Teachers Information Literacy Skills. The current study finally reveals that that most of the Secondary Level Student Teachers of the total sample possess moderate Information Literacy Skills. The study showed that there is a significant difference in the Means of Scores on Information Literacy Skills among Secondary Level Student Teachers with respect to Gender and Streams of Discipline. It also reveals a significant relationship between Information Literacy and Academic Performance among Secondary Level Student Teachers.

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