Chapter 4
Data Analysis and Interpretation

CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

Different tools and techniques were used, namely, five point scale to check entry status, Focused Group Discussion, Content Analysis of Narrations, Reaction Scale for collecting data. The analysis has been done objective wise.

4.2 ASSESSMENT OF THE LEVEL OF INFO-SAVVY SKILLS IN STUDENT TEACHERS

To check the entry status of Student Teachers on Info-Savvy skills a five point scale was employed. Total 127 Student Teachers were present at the time of pre intervention of test.

Table 4.1 Info-Savvy Skills Entry Status

Sr. No.	Statement	Always	Often	Sometimes	Rarely	Never	Chi-Square Value (χ)
1	I can identify the Problem.	34 (27%)	59 (46%)	35 (27%)	0 (0%)	0 (0%)	100.99
2	I am in a position to identify the Key Words related to the problem.	25 (20%)	54 (43%)	46 (36%)	0 (0%)	1 (1%)	98.52
3	I listen deeply.	41 (33%)	57 (46%)	24 (19%)	3 (2%)	0 (0%)	95.6
4	I view wisely.	31 (24%)	60 (47%)	28 (22%)	8 (6%)	0 (0%)	85.95
5	I think critically	36 (29%)	48 (38%)	35 (28%)	5 (4%)	1 (1%)	69.04
6	I think laterally.	17 (14%)	37 (30%)	59 (47%)	9 (7%)	3 (2%)	84.16
7	I zoom out and zoom in.	15 (12%)	52 (41%)	51 (40%)	9 (7%)	0 (0%)	89.69
8	Brain Storming helps me in sharing my state.	36 (30%)	41 (35%)	32 (27%)	10 (8%)	0 (0%)	55.75
9	I understand ethical issues.	48 (38%)	41 (33%)	27 (21%)	7 (6%)	3 (2%)	63.37
10	I am in a position to share my experience.	55 (44%)	36 (29%)	28 (22%)	6 (5%)	0 (0%)	80.64
11	I am in a position to formulate valid questions.	20 (16%)	61 (48%)	41 (32%)	5 (4%)	0 (0%)	102.41
12	I am in a position to determine where the information related to my questions could be resident.	34 (27%)	45 (35%)	43 (34%)	4 (3%)	1 (1%)	71.7
13	I am in a position to determine which skills will be needed to find the information.	30 (24%)	51 (41%)	37 (30%)	6 (5%)	0 (0%)	73.82

Sr. No.	Statement	Always	Often	Sometimes	Rarely	Never	Chi-Square Value (χ)
14	I am in a position to design the search strategies.	18 (15%)	45 (37%)	46 (38%)	13 (10%)	0 (0%)	67.92
15	I am in a position to do skimming, scanning and scouring of media and resources for pertinent data.	30 (24%)	43 (35%)	41 (33%)	6 (5%)	4 (3%)	56.73
16	I am in a position to search and research.	29 (23%)	52 (41%)	32 (26%)	10 (8%)	3 (2%)	59.63
17	I am in a position to cope up with the information overload.	23 (18%)	47 (38%)	38 (31%)	14 (11%)	2 (2%)	52.69
18	I am in a position to use filtering skills.	26 (21%)	51 (40%)	39 (31%)	10 (8%)	0 (0%)	68.37
19	I am in a position to take smart notes.	37 (29%)	46 (37%)	31 (25%)	9 (7%)	2 (2%)	56.24
20	I am in a position to organize the data collected from various resources.	43 (34%)	46 (36%)	30 (24%)	5 (4%)	2 (2%)	68.2
21	I am in a position to establish the authenticity of the data.	17 (13%)	36 (29%)	58 (46%)	11 (9%)	4 (3%)	75.82
22	I am in a position to check the data for relevance.	33 (26%)	55 (43%)	29 (23%)	9 (7%)	1 (1%)	71.3
23	I am in a position to distinguish between good and bad data.	48 (38%)	43 (34%)	27 (21%)	8 (7%)	0 (0%)	52.27
24	I can distinguish between fact and opinion.	31 (24%)	54 (43%)	32 (25%)	9 (7%)	1 (1%)	69.17
25	I can examine the data for underlying meaning.	23 (18%)	54 (43%)	47 (37%)	2 (2%)	0 (0%)	98.52
26	I can identify when there is incomplete information.	22 (17%)	51 (40%)	44 (35%)	9 (7%)	1 (1%)	73.91
27	I can revise the asking and accessing stages to fill in the gaps.	21 (17%)	47 (38%)	46 (37%)	8 (7%)	1 (1%)	73.39
28	I can cross validate the data.	12 (10%)	48 (38%)	36 (29%)	23 (18%)	6 (5%)	47.36
29	I can seek additional information as needed.	33 (27%)	38 (30%)	43 (34%)	11 (9%)	0 (0%)	55.12
30	I can interrelate the data to arrive at information.	19 (15%)	51 (41%)	47 (37%)	6 (5%)	2 (2%)	83.44
31	I can identify a suitable format for presenting the information gathered.	27 (21%)	60 (47%)	30 (24%)	9 (7%)	1 (1%)	82.09
32	I can easily and precisely apply the information to the problem.	24 (19%)	49 (39%)	40 (31%)	11 (9%)	2 (2%)	60.59
33	I can find out to what extent the problem related questions were answered.	29 (23%)	59 (47%)	31 (25%)	7 (5%)	0 (0%)	85.57
34	I can find out to what extent the problem is solved.	45 (35%)	49 (39%)	29 (23%)	4 (3%)	0 (0%)	80.99

Sr. No.	Statement	Always	Often	Sometimes	Rarely	Never	Chi-Square Value (χ)
35	I can employ the skills of Asking, Accessing, Analyzing, Applying and Assessing easily and appropriately.	17 (13%)	56 (44%)	39 (31%)	12 (10%)	2 (2%)	76.14
36	I can transfer the learning to other situations.	23 (18%)	56 (44%)	43 (34%)	4 (3%)	1 (1%)	90.76

A. Are you info-savvy? **Yes (83) (69%)** **No (37) (31%)**

B. Are you Net-savvy? **Yes (77) (63%)** **No (46) (37%)**

The entry status of Student Teachers on Info-Savvy skills was found to be encouraging as evident through the values of chi square against all the 36 statements of the Rating Scale. The null hypothesis that there will be no significant difference between observed frequencies and frequencies expected against equal probability has been rejected against all the statements of the Rating Scale at 0.01 level.

The statement wise status has been presented as follows.

- 27% Student Teachers could identify the problem always, 46% often, whereas, 27% could identify sometimes.
- 20% Student Teachers could identify the key words related to the problem always, 43% often, 36% sometimes, whereas, 1% could never identify the key words.
- 33% Student Teachers were found to listen deeply always, 46% often, 19% sometimes, whereas, 2% rarely.
- 24% Student Teachers were found to view wisely always, 47% often, 22% sometimes, whereas, 6% rarely.
- 29% Student Teachers were found to think critically always, 38% often, 28% sometimes, 4% rarely, whereas, 1% never.
- 14% Student Teachers were found to think laterally always, 30% often, 47% sometimes, 7% rarely, whereas, 2% never.
- 12% Student Teachers were found to zoom out and zoom in always, 41% often, 40% sometimes, whereas, 7% rarely.

- 30% Student Teachers were found to do brain storming always, 35% often, 27% sometimes, whereas, 8% rarely.
- 38% Student Teachers were found to understand ethical issues always, 33% often, 21% sometimes, 6% rarely, whereas, 2% never.
- 44% Student Teachers were found to in a position to share their experiences always, 29% often, 22% sometimes, whereas, 5% rarely.
- 16% Student Teachers were found to in a position to formulate valid questions always, 48% often, 32% sometimes, whereas, 4% rarely.
- 27% Student Teachers were found to locate related information to their questions always, 35% often, 34% sometimes, 3% rarely, whereas, 1% never.
- 24% Student Teachers were found to in a position to determine which skills will be needed to find the information always, 41% often, 30% sometimes, whereas, 5% rarely.
- 15% Student Teachers were found to in a position to design the search strategies always, 37% often, 38% sometimes, whereas, 10% rarely.
- 24% Student Teachers were found to in position to do skimming, scanning and scouring of media and resources for pertinent data always, 35% often, 33% sometimes, 5% rarely, whereas, 3% never.
- 23% Student Teachers were found to in a position to search and research always, 41% often, 26% sometimes, 8% rarely, whereas, 2% never.
- 18% Student Teachers were found to in a position to cope up with the information overload always, 38% often, 31% sometimes, 11% rarely, whereas, 2% never.
- 21% Student Teachers were found to in a position to use filtering skills always, 40% often, 31% sometimes, whereas, 8% rarely.
- 29% Student Teachers were found to in a position to take smart notes always, 37% often, 25% sometimes, 7% rarely, whereas, 2% never.
- 34% Student Teachers were found to in a position to organize the data collected from various resources always, 36% often, 24% sometimes, 4% rarely, whereas, 2% never.
- 13% Student Teachers were found to in a position to establish the authenticity of the data always, 29% often, 46% sometimes, 9% rarely, whereas, 3% never.
- 26% Student Teachers were found to in a position to check the data for relevance always, 43% often, 23% sometimes, 7% rarely, whereas, 1% never.

- 38% Student Teachers were found to in a position to distinguish between good and bad data always, 34% often, 21% sometimes, whereas, 7% rarely.
- 24% Student Teachers were found to distinguish between fact and opinion always, 43% often, 25% sometimes, 7% rarely, whereas, 1% never.
- 18% Student Teachers were found to examine the data for underlying meaning always, 43% often, 37% sometimes, whereas, 2% rarely.
- 17% Student Teachers could identify when there is incomplete information always, 40% often, 35% sometimes, 7% rarely, whereas, 1% could never identify when there is incomplete information .
- 17% Student Teachers were found to revise the asking and accessing stages to fill in the gaps always, 38% often, 37% sometimes, 7% rarely, whereas, 1% never.
- 10% Student Teachers were found to cross validate the data always, 38% often, 29% sometimes, 18% rarely, whereas, 5% never.
- 27% Student Teachers were found to seek additional information as needed always, 30% often, 34% sometimes, whereas, 9% rarely.
- 15% Student Teachers were found to interrelate the data to arrive at information always, 41% often, 37% sometimes, 5% rarely, whereas, 2% never.
- 21% Student Teachers could identify a suitable format for presenting the information gathered always, 47% often, 24% sometimes, 7% rarely, whereas, 1% could never identify a suitable format for presenting the information gathered.
- 19% Student Teachers were found to easily and precisely apply the information to the problem always, 39% often, 31% sometimes, 9% rarely, whereas, 2% never.
- 23% Student Teachers were found to find out to what extent the problem related questions answered always, 47% often, 25% sometimes, whereas, 5% rarely.
- 35% Student Teachers were found to find out to what extent the problem solved always, 39% often, 23% sometimes, whereas, 3% rarely.
- 13% Student Teachers were found to employ the skills of Asking, Accessing, Analyzing, Applying and Assessing easily and appropriately always, 44% often, 31% sometimes, 10% rarely, whereas, 2% never.

- 18% Student Teachers were found to transfer the learning to other situations always, 44% often, 34% sometimes, 3% rarely, whereas, 1% never.
- 69% Student Teachers were Info-Savvy.
- 31% Student Teachers were not Info-Savvy.
- 63% Student Teachers were Net-Savvy.
- 37% Student Teachers were not Net-Savvy.

Student Teachers have suggested that to become Info-Savvy knowledge of Internet is required. Knowledge and practice of Info-Savvy skills always helps to become Info-Savvy. To get the solution of a problem these skills are useful. One student teacher suggested that to know new innovations internet can be useful resource and this practice makes one's mind active. One student teacher suggested that Info-Savvy skills are useful for both teachers and students. Some of Student Teachers wanted to learn these skills and practice these. Some Student Teachers suggested that it will help in self learning. One student teacher suggested that one should have knowledge of computer. One student teacher suggested that basic information about Info-Savvy skills is required. Student Teachers believed that by searching information from internet they become Info-Savvy. They thought that a person who is Net-Savvy becomes easily Info-Savvy. They thought that Info-Savvy skills relate to computer and Internet only. Some Student Teachers suggested that before entering into B.Ed. they used Internet for mailing purpose only. Most of Student Teachers suggested that because of lack of practice they were not able to find out information from Internet. 41 Student Teachers were not able to give any suggestions. It may be because these skills were new for them. 62 Student Teachers (48%) were found to have their e-mail ID. it shows that they were familiar with the use of Internet.

4.3 DEVELOPMENT OF A PROGRAMME FOR ENHANCING INFO-SAVVY SKILLS IN STUDENT TEACHERS

In this study Info-Savvy Skills employed by Jean-Luc Picard Approach to Solving Problems were used. Info-Savvy Skills includes 5 Skills like Asking, Accessing, Analysing, Applying and Assessing.

First Investigator assessed status of Info-Savvy skills in Student Teachers and then on the basis of that developed Power Point Presentation on Info-Savvy Skills.

During 04 periods this theoretical output was provided to Student Teachers. With live demonstration also Info-Savvy Skills were taught to Student Teachers for better understanding. Each and every component was elaborately taught and discussed during Power Point Presentation on Info-Savvy Skills.

There were total 52 Slides in the Power Point Presentation. In the Asking Skill there were total 8 components. There were total 7 components in Accessing Skill. There were 5 components in Analysing Skill. Forth was Applying Skill, there was no component. There were 6 components in Assessing Skill. Every component was elaborated with text, images, pictures, clipart and chart. Animation was also used in slides where it was required. Info-Savvy Skills were explained with examples for providing better understanding to Student Teachers.

First Info-Savvy Skills Entry Status Rating Scale was administered on the Student Teachers. On the basis of Power Point Presentation on Info-Savvy Skills theoretical input was provided to Student Teachers. This input was given in General Classrooms. 04 periods were allotted to this theoretical input. After providing theoretical input live demonstration on Info-Savvy Skills was given by the investigator.

Investigator chosen a common topic for section A- 'Buddhist heritage of India' and for section B- 'Cultural heritage of India'. During demonstration investigator has written key word in different ways, used language option, opened Metasearch engine, linked pages, searched through images, and used skimming, scanning, skipping and switching skills. Meaning of Information ethics, currency of date, authenticity of web, authenticity of documents, and domain name shown to Student Teachers. Student Teachers were shown difference between facts and opinions, and information and data.

During first phase same topic was given to Student Teachers for hands on experience. One week was provided to Student Teachers for searching information and present it. During practice Student Teachers were take help of investigator if they found it difficult to search information. After one week in General Classroom Focussed Group Discussion was conducted by investigator. Student Teachers were able to share their experience infront of the whole class.

During second phase Student Teachers chosen problem according to their methods. Topics according to methods were:

Teaching of English- Sonnets

Teaching of Gujarati-Types of Literature

Teaching of Commerce- Innovation in Banking

Teaching of Psychology- Mind and Matter

Teaching of Mathematics- Central Tendency

Teaching of Science- Global Warming

Teaching of Physics- Fluid Mechanics

Teaching of Chemistry- Pollution

Teaching of Biology- Structure of DNA

Teaching of Hindi- 'Bhakti Kavya'

Teaching of Sanskrit- Contribution of Sanskrit in Science

Teaching of Social Science- Social Reforms/ Types of Volcanoes

Teaching of Accountancy- New innovations in Accounting standards

Teaching of Economics- Inflation

One week time duration was provided to Student Teachers for searching information and to present it. During practice Student Teachers sought help of the investigator if they found it difficult to search information. After one week in Method classes Focussed Group Discussion was conducted by the investigator. Student Teachers were able to share their experiences infront of the method group. For more practice on the Info-Savvy Skills one more week provided to Student Teachers. Focussed Group Discussion was also conducted during free method classes, so that Student Teachers were share their positive and negative experiences more specifically.

Developed programme was implemented on Student Teachers in the entire IInd semester.

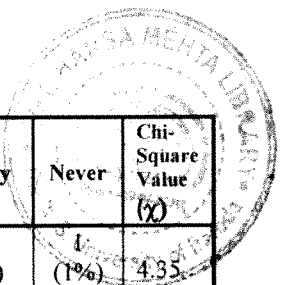
4.4 EFFECTIVENESS OF THE DEVELOPED PROGRAMME

To check the effectiveness of the developed Programme Post intervention Rating Scale was employed. Total 133 Student Teachers were present at the time of post intervention test. The following results were draw.

Table 4.2 Pre-rating and Post-rating frequencies percentages Chi-Square value along with the level of significance

Sr. No.	Statement		Always	Often	Sometimes	Rarely	Never	Chi-Square Value (χ)
1	I can identify the Problem.	Pre-rating	34 (27%)	59 (46%)	35 (27%)	0 (0%)	0 (0%)	5.96 -
		Post-rating	50 (38%)	52 (39%)	29 (22%)	2 (1%)	0 (0%)	
2	I am in a position to identify the Key Words related to the problem.	Pre-rating	25 (20%)	54 (43%)	46 (36%)	0 (0%)	1 (1%)	26.27 **
		Post-rating	63 (47%)	42 (32%)	26 (20%)	2 (1%)	0 (0%)	
3	I listen deeply.	Pre-rating	41 (33%)	57 (46%)	24 (19%)	3 (2%)	0 (0%)	3.28 -
		Post-rating	41 (31%)	56 (43%)	29 (22%)	3 (2%)	3 (2%)	
4	I view wisely.	Pre-rating	31 (24%)	60 (47%)	28 (22%)	8 (6%)	0 (0%)	11.72 *
		Post-rating	30 (23%)	60 (46%)	39 (30%)	0 (0%)	2 (1%)	
5	I think critically.	Pre-rating	36 (29%)	48 (38%)	35 (28%)	5 (4%)	1 (1%)	3.36 -
		Post-rating	50 (38%)	46 (35%)	32 (24%)	4 (3%)	0 (0%)	
6	I think laterally.	Pre-rating	17 (14%)	37 (30%)	59 (47%)	9 (7%)	3 (2%)	18.48 **
		Post-rating	27 (20%)	65 (49%)	33 (25%)	5 (4%)	2 (2%)	
7	I zoom out and zoom in.	Pre-rating	15 (12%)	52 (41%)	51 (40%)	9 (7%)	0 (0%)	1.68 -
		Post-rating	21 (16%)	49 (39%)	51 (40%)	6 (5%)	0 (0%)	
8	Brain Storming helps me in sharing my state.	Pre-rating	36 (30%)	41 (35%)	32 (27%)	10 (8%)	0 (0%)	8.9 -
		Post-rating	44 (34%)	54 (42%)	25 (20%)	3 (2%)	2 (2%)	
9	I understand ethical issues.	Pre-rating	48 (38%)	41 (33%)	27 (21%)	7 (6%)	3 (2%)	7.53 -
		Post-rating	36 (27%)	43 (32%)	46 (35%)	7 (5%)	1 (1%)	
10	I am in a position to share my experience.	Pre-rating	55 (44%)	36 (29%)	28 (22%)	6 (5%)	0 (0%)	1.35 -
		Post-rating	60 (46%)	41 (31%)	28 (21%)	3 (2%)	0 (0%)	

Sr. No.	Statement		Always	Often	Sometimes	Rarely	Never	Chi-Square Value (χ)
11	I am in a position to formulate valid questions.	Pre-rating	20 (16%)	61 (48%)	41 (32%)	5 (4%)	0 (0%)	4.67 -
		Post-rating	35 (26%)	53 (40%)	39 (29%)	6 (5%)	0 (0%)	
12	I am in a position to determine where the information related to my questions could be resident.	Pre-rating	34 (27%)	45 (35%)	43 (34%)	4 (3%)	1 (1%)	2.79 -
		Post-rating	30 (23%)	57 (43%)	40 (30%)	5 (4%)	0 (0%)	
13	I am in a position to determine which skills will be needed to find the information.	Pre-rating	30 (24%)	51 (41%)	37 (30%)	6 (5%)	0 (0%)	0.76 -
		Post-rating	35 (27%)	52 (39%)	41 (31%)	4 (3%)	0 (0%)	
14	I am in a position to design the search strategies.	Pre-rating	18 (15%)	45 (37%)	46 (38%)	13 (10%)	0 (0%)	6.29 -
		Post-rating	24 (19%)	51 (39%)	43 (33%)	8 (6%)	4 (3%)	
15	I am in a position to do skimming, scanning and scouring of media and resources for pertinent data.	Pre-rating	30 (24%)	43 (35%)	41 (33%)	6 (5%)	4 (3%)	12.18 *
		Post-rating	52 (40%)	49 (37%)	25 (19%)	4 (3%)	1 (1%)	
16	I am in a position to search and research.	Pre-rating	29 (23%)	52 (41%)	32 (26%)	10 (8%)	3 (2%)	14.19 **
		Post-rating	49 (38%)	44 (34%)	35 (27%)	2 (1%)	0 (0%)	
17	I am in a position to cope up with the information overload.	Pre-rating	23 (18%)	47 (38%)	38 (31%)	14 (11%)	2 (2%)	2.97 -
		Post-rating	29 (23%)	47 (36%)	44 (34%)	8 (6%)	1 (1%)	
18	I am in a position to use filtering skills.	Pre-rating	26 (21%)	51 (40%)	39 (31%)	10 (8%)	0 (0%)	10.08 *
		Post-rating	43 (33%)	49 (37%)	29 (22%)	7 (5%)	4 (3%)	
19	I am in a position to take smart notes.	Pre-rating	37 (29%)	46 (37%)	31 (25%)	9 (7%)	2 (2%)	8.11 -
		Post-rating	46 (35%)	53 (40%)	30 (23%)	1 (1%)	1 (1%)	
20	I am in a position to organize the data collected from various resources.	Pre-rating	43 (34%)	46 (36%)	30 (24%)	5 (4%)	2 (2%)	3.01 -
		Post-rating	48 (36%)	51 (39%)	26 (20%)	7 (5%)	0(0%)	
21	I am in a position to establish the authenticity of the data.	Pre-rating	17 (13%)	36 (29%)	58 (46%)	11 (9%)	4 (3%)	11.31 *
		Post-rating	27 (20%)	55 (42%)	41 (31%)	8 (6%)	1 (1%)	
22	I am in a position to check the data for relevance.	Pre-rating	33 (26%)	55 (43%)	29 (23%)	9 (7%)	1 (1%)	13.16 *
		Post-rating	55 (41%)	52 (39%)	25 (19%)	1 (1%)	0 (0%)	
23	I am in a position to distinguish between good and bad data.	Pre-rating	48 (38%)	43 (34%)	27 (21%)	8 (7%)	0 (0%)	2.66 -
		Post-rating	51 (38%)	49 (37%)	28 (21%)	4 (3%)	1 (1%)	



Sr. No.	Statement		Always	Often	Sometimes	Rarely	Never	Chi-Square Value (χ)
24	I can distinguish between fact and opinion.	Pre-rating	31 (24%)	54 (43%)	32 (25%)	9 (7%)	1 (1%)	4.35
		Post-rating	35 (26%)	59 (45%)	33 (25%)	3 (2%)	3 (2%)	-
25	I can examine the data for underlying meaning.	Pre-rating	23 (18%)	54 (43%)	47 (37%)	2 (2%)	0 (0%)	3.01
		Post-rating	25 (18%)	66 (50%)	40 (30%)	1 (1%)	1 (1%)	-
26	I can identify when there is incomplete information.	Pre-rating	22 (17%)	51 (40%)	44 (35%)	9 (7%)	1 (1%)	3.36
		Post-rating	29 (22%)	56 (42%)	42 (32%)	4 (3%)	2 (1%)	-
27	I can revise the asking and accessing stages to fill in the gaps.	Pre-rating	21 (17%)	47 (38%)	46 (37%)	8 (7%)	1 (1%)	3.3
		Post-rating	20 (15%)	63 (47%)	44 (33%)	6 (5%)	0 (0%)	-
28	I can cross validate the data.	Pre-rating	12 (10%)	48 (38%)	36 (29%)	23 (18%)	6 (5%)	19.19
		Post-rating	25 (19%)	47 (35%)	54 (41%)	7 (5%)	0 (0%)	**
29	I can seek additional information as needed.	Pre-rating	33 (27%)	38 (30%)	43 (34%)	11 (9%)	0 (0%)	7.23
		Post-rating	43 (33%)	49 (38%)	33 (26%)	4 (3%)	0 (0%)	-
30	I can interrelate the data to arrive at information.	Pre-rating	19 (15%)	51 (41%)	47 (37%)	6 (5%)	2 (2%)	7.57
		Post-rating	32 (24%)	56 (42%)	42 (32%)	1 (1%)	1 (1%)	-
31	I can identify a suitable format for presenting the information gathered.	Pre-rating	27 (21%)	60 (47%)	30 (24%)	9 (7%)	1 (1%)	3.84
		Post-rating	32 (24%)	61 (46%)	36 (27%)	3 (2%)	1 (1%)	-
32	I can easily and precisely apply the information to the problem.	Pre-rating	24 (19%)	49 (39%)	40 (31%)	11 (9%)	2 (2%)	5.3
		Post-rating	25 (19%)	66 (50%)	35 (26%)	5 (4%)	1 (1%)	-
33	I can find out to what extent the problem related questions were answered.	Pre-rating	29 (23%)	59 (47%)	31 (25%)	7 (5%)	0 (0%)	9.55
		Post-rating	44 (33%)	50 (38%)	34 (26%)	2 (1%)	3 (2%)	*
34	I can find out to what extent the problem is solved.	Pre-rating	45 (35%)	49 (39%)	29 (23%)	4 (3%)	0 (0%)	1.97
		Post-rating	48 (37%)	55 (42%)	24 (18%)	3 (2%)	1 (1%)	-
35	I can employ the skills of Asking, Accessing, Analyzing, Applying and Assessing easily and appropriately.	Pre-rating	17 (13%)	56 (44%)	39 (31%)	12 (10%)	2 (2%)	12.83
		Post-rating	42 (32%)	52 (39%)	29 (22%)	8 (6%)	2 (1%)	*
36	I can transfer the learning to other situations.	Pre-rating	23 (18%)	56 (44%)	43 (34%)	4 (3%)	1 (1%)	6.06
		Post-rating	36 (27%)	59 (45%)	29 (22%)	5 (4%)	2 (2%)	-

Note: * 0.05 level null hypothesis was rejected

** 0.01 level null hypothesis was rejected

- Not significant

A.	**Are you info-savvy?**	**Yes**	**No**
	Pre-Test	**83 (69%)**	**37 (31%)**
	Post-Test	**119 (92%)**	**11 (8%)**
B.	**Are you Net-savvy?**	**Yes**	**No**
	Pre-Test	**77 (63%)**	**46 (37%)**
	Post-Test	**120 (92%)**	**11 (8%)**

It is evident through **Table 4.2** that against statement number **4, 15, 18, 21, 22, 33** and **35** the null hypothesis was rejected at **0.05** level, against statement number **2, 6, 16** and **28** the null hypothesis was rejected at **0.01** level, whereas, against the remaining statements the null hypothesis was not rejected.

4.4.1 METHOD WISE DATA ANALYSIS

There were total 14 methods offered by the Department of Education, Faculty of Education and Psychology, The M.S. University of Baroda during 2009-2010. Method wise Entry-Status and Post-Status are presented as follows:

4.4.1.1 Teaching of English

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted in English method class.

Table 4.3.1 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• They often used Google search engine.	• They often used different search engines.
• They did not know about Metasearch engines.	• They knew and used Metasearch engines.
• They were using different keywords but without proper searching strategy.	• They were using different keywords with proper searching strategy.

Entry-Status	Post-Status
• They were not sensitive to the numbers of results they got according to keywords.	• They saw number of results available to them according to keywords.
• Most of them did not search information related to English method.	• They were able to search information related to English method.
• Only one student teacher knew about Wikipedia.	• All Student Teachers knew and started using Wikipedia.
• They did not know about domain name used in the URL (Uniform Resource Locater).	• They knew about domain name used in the URL (Uniform Resource Locater).
• They were not able to observe Information Ethics.	• They were able to observe Information Ethics and also they tried to observe it.
• They did not know about smart notes.	• They knew about smart notes.
• They did not think about facts and opinions related to data.	• They were able to differentiate between facts and opinions related to data.
• They did not cross-validate data.	• They were able to cross-validate data.
• They did not check authenticity of data.	• They checked authenticity of data.
• They did not check references given in the web pages.	• They checked references given in the web pages.
• Most of Student Teachers did not use links given in the web pages.	• They tried to use the links given in the web pages.
• They did not know that through images also we can get information.	• They knew that through images also we can get information.
• They did not know that video results are also useful while surfing on Internet.	• They knew that video results can be useful while searching information on Internet.
• If they did not get information in first attempt then they never tried again.	• They tried again and again until they solved their problem.
• They faced many difficulties.	• They faced less difficulty.
• Less confident about finding correct information.	• Often confident about finding correct information.
• They preferred to use books for searching information.	• They preferred to use Internet for searching information.
• They did not know about the Info-Savvy Skills.	• They knew and practiced the Info-Savvy Skills during surfing.

Entry-Status	Post-Status
• Some Student Teachers were Net-Savvy.	• Many were Net-Savvy and Info-Savvy

It is evident through Table 4.3.1 that English method Student Teachers started using Internet for English subject. They found that in literature most of information was just opinions of others. Only history and biography of Poet was providing factual information.

4.4.1.2 Teaching of Gujarati

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted among Gujarati method group.

Table 4.3.2 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• Some Student Teachers never used Internet.	• They started using Internet.
• Some Student Teachers did not know about language option available on Google search engine.	• They started using their own mother tongue for searching information through Google search engine.
• Most of Student Teachers had fear about English language so that they avoided using Internet.	• Availability of Hindi language on search engine reduced their fear of using Internet.
• They used only Google search engine because they did not know about other search engines.	• They had knowledge about other search engines and started using different search engines.
• Some Student Teachers had an idea about availability of language option but did not know how to use it.	• They knew that they have to use SMS language while using other than English language.
• No one knew about Metasearch engines.	• They knew about Metasearch engines.
• They did not know about use of Keywords.	• They used different Keywords.
• Very less number of Student Teachers knew about Wikipedia.	• They knew about Wikipedia.
• They did not know about Ethical Issues.	• They knew about Ethical Issues.

Entry-Status	Post-Status
• They did not know that why some document was not copy from the Internet.	• They knew that because of some Ethical Issues document was not copy from the Internet.
• They did not know about Smart Notes.	• They knew about Smart Notes.
• They cross-validated information with the textbook only.	• They were able to cross-validate information with author's name, qualification, current date and on the basis of domain name.
• They never checked references given below web pages.	• They checked references and tried to link it.
• Most Student Teachers never tried links given in the web pages.	• They knew and also tried to use the links.
• They never tried to search information through images.	• They knew and tried to search information through images.
• They did not know that information can be searched through video results.	• They knew that information can be searched through video results.
• If once they were not able to search information from Internet, they never tried it again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.
• Less confident about how to get the information from the websites.	• More confident about how to get the information from the websites.
• They preferred to go to library.	• They preferred to use Internet.
• They did not know about the Info-Savvy Skills.	• They knew and also practiced the Info-Savvy Skills while surfing.

It is evident through Table 4.3.2 that Gujarati method Student Teachers were having language fear because of which they never tried to use Internet for Gujarati subject. Some Student Teachers had an idea about availability of language option but did not know how to use it. Now they know that SMS language was used while different language options were selected. They came to know that Wikipedia also offered language option and it increased their level of interest for using Internet. They found some audio format information but were not able to download because of ethical issues.

4.4.1.3 Teaching of Sanskrit

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted in Sanskrit method class.

Table 4.3.3 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• Some Student Teachers never used Internet.	• They started using Internet.
• They surfed through Computer Internet only.	• They knew and also use Mobile Internet facility for surfing.
• They thought that for Sanskrit method Internet is not useful.	• They were able to know the importance of Sanskrit language at International level.
• They did not surf Internet for Sanskrit method.	• They started to surf Internet for Sanskrit method and also get information in Sanskrit language.
• They used only Google search engine because they did not know about other search engines.	• They had knowledge about other search engines and started using different search engines.
• No one knew about Metasearch engines.	• They knew about Metasearch engines.
• They did not know about use of Keywords.	• They used different Keywords.
• They did not know about Wikipedia.	• They knew about Wikipedia and started to use it.
• They did not know about Information Ethics.	• They knew about Information Ethics.
• They did not know about Smart Notes.	• They knew about Smart Notes.
• They cross-validated information with the textbook only.	• They were able to cross-validate information with author's name, qualification, current date and on the basis of domain name.
• They never check references given below web pages.	• They checked references and tried to link it.

Entry-Status	Post-Status
• They never tried to search information through images.	• They knew and tried to search information through images.
• They did not know that information can be searched through video results.	• They knew that information can be searched through video results.
• If once they were not able to search information from Internet, they never tried it again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.
• Most Student Teachers never tried links given in the web pages.	• They knew and also tried to use the links.
• Less confident about how to get the information from the websites.	• More confident about how to get the information from the websites.
• They did not show interest in searching information from websites.	• They generated interest in searching information from websites.
• They preferred to go to library.	• They preferred to use Internet.
• They did not know about the Info-Savvy Skills.	• They knew and also practiced the Info-Savvy Skills while surfing.
• Few Student Teachers were Net-Savvy.	• They were Info-Savvy.

It is evident through Table 4.3.3 that Sanskrit method Student Teachers never used Internet for Sanskrit subject. Some Student Teachers were new users. After implementation of Info-Savvy Skills Programme Student Teachers knew that NASA and Howard University also give importance to Sanskrit Language. On Internet some documents were available in Sanskrit language also. One Student Teacher used his mobile phone to surf Internet.

4.4.1.4 Teaching of Hindi

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted in Hindi method class.

Table 4.3.4 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• Some Student Teachers never used Internet.	• They started using Internet.
• They used only Google search engine because they did not know about other search engines.	• They had knowledge about other search engines and started using different search engines.
• Some Student Teachers did not know about language option available on Google search engine.	• They started using their own mother tongue for searching information through Google search engine.
• Most of Student Teachers had fear about English language so that they avoided using Internet.	• Availability of Hindi language on search engine reduced their fear of using Internet.
• Some Student Teachers had an idea about availability of language option but did not know how to use it.	• They knew that they have to use SMS language while using other than English language.
• No one knew about Metasearch engines.	• They knew about Metasearch engines.
• They did not know about use of Keywords.	• They used different Keywords.
• Very less number of Student Teachers knew about Wikipedia.	• They knew about Wikipedia.
• They did not know that Wikipedia provide information in different Indian languages.	• They knew and started using Wikipedia in their own languages.
• They did not know about Ethical Issues.	• They knew about Ethical Issues.
• They did not know that why some document was not copy from the Internet.	• They knew that because of some Ethical Issues document was not copy from the Internet.
• They did not know about Smart Notes.	• They knew about Smart Notes.
• They cross-validated information with the textbook only.	• They were able to cross-validate information with author's name, qualification, current date and on the basis of domain name.

Entry-Status	Post-Status
• They never check references given below web pages.	• They checked references and tried to link it.
• They never tried to search information through images.	• They knew and tried to search information through images.
• They did not know that information can be searched through video results.	• They knew that information can be searched through video results.
• If once they were not able to search information from Internet, they never tried it again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.
• Most Student Teachers never tried links given in the web pages.	• They knew and also tried to use the links.
• Less confident about finding the information from the websites.	• More confident about finding the information from the websites.
• They preferred to go to library.	• They preferred to use Internet.
• They did not know about the Info-Savvy Skills.	• They knew and also practiced the Info-Savvy Skills while surfing.
• Some Student Teachers were Net-Savvy.	• They were Info-Savvy.

It is evident through Table 4.3.4 that Hindi method Student Teachers were differentiated in two groups, frequent users and rare or new users. Frequent users used Internet for mailing and chat. They did not refer Internet for Hindi subject. After implementation of Info-Savvy Skills Programme they started using Internet for Hindi subject. They developed the various Info-Savvy Skills.

4.4.1.5 Teaching of Mathematics

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted among Mathematics method group.

Table 4.3.5 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• They very often used Google search engine.	• They often used different search engines.
• They did not know about Metasearch engines.	• They knew about Metasearch engines and also used during surfing.
• They were using different keywords but without proper searching strategy.	• They were using different keywords with proper searching strategy.
• They did not see how many results they get according to keywords.	• They saw number of results available to them according to keywords.
• They rarely used Internet for Mathematics method.	• They often used Internet for Mathematics method.
• They did not know about domain name used in the URL (Uniform Resource Locater).	• They knew about domain name used in the URL (Uniform Resource Locater).
• They were not observing Information Ethics.	• They were observing Information Ethics.
• They did not know about smart notes.	• They knew about smart notes.
• They did not know how to cope up with overload of information.	• They knew that surfing skills were useful to cope with overload of information.
• They never checked authenticity of data.	• They checked authenticity of data.
• They did not check updation date or author's name while searching on websites.	• They were checking updation date and author's name.
• They never tried to read references given below the webpage.	• They tried to read and link those references given below the webpage.
• Most of Student Teachers did not used links given in the web pages.	• They tried to use the links given in the web pages.
• Most of Student Teachers did not know that books are available on Internet.	• They knew that full length books are available on Internet.
• If they did not get information in first attempt then they never tried again.	• They tried again and again to solve their problem.

Entry-Status	Post-Status
• They did not know that through images also we can get information.	• They knew that through images also we can get information.
• They did not use video results to search information.	• They used different video results for collecting related information.
• They faced many difficulties.	• They faced less difficulty.
• Sometimes confident about finding correct information.	• Often confident about finding correct information.
• They preferred to use books for searching information.	• They preferred to use Internet for searching information.
• They did not know about the Info-Savvy Skills.	• They knew and practiced the Info-Savvy Skills during surfing.
• They were Net-Savvy.	• They were Net-Savvy and Info-Savvy both.

It is evident through Table 4.3.5 that Mathematics method Student Teachers were Net-Savvy. They were using Internet for other method not for Mathematics. They knew that some books are available on Internet freely. They showed their interest to search information through Metasearch engine.

4.4.1.6 Teaching of Science

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted among Science method group.

Table 4.3.6 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• They very often used Google search engine.	• They often used different search engines.
• They did not know about Metasearch engines.	• They knew about Metasearch engines and also used during surfing.
• They were using different keywords but without proper searching strategy.	• They were using different keywords with proper searching strategy.
• Some Student Teachers did not know about Wikipedia.	• They liked to refer Wikipedia.

Entry-Status	Post-Status
• They did not know about domain name used in the URL (Uniform Resource Locater).	• They knew about domain name used in the URL (Uniform Resource Locater).
• They were not observing Information Ethics.	• They were observing Information Ethics.
• They did not know about smart notes.	• They knew about smart notes.
• They never checked authenticity of data.	• They checked authenticity of data.
• They did not check updation date or author's name while searching on websites.	• They were checking updation date and author's name.
• They never tried to read references given below the webpage.	• They tried to read and link those references given below the webpage.
• Very few Student Teachers tried to interrelate data.	• They tried to interrelate data.
• Most of Student Teachers did not use links given in the web pages.	• They tried to use those links given in the web pages.
• They did not know that through images also we can get information.	• They knew that through images also we can get information.
• They did not use video results to search information.	• They used different video results for collecting related information.
• If they did not get information in first attempt then they never tried again.	• They tried again and again to solve their problem.
• They faced many difficulties	• They faced less difficulties.
• Sometimes confident about finding correct information.	• Often confident about finding correct information.
• They preferred to use books for searching information.	• They preferred to use Internet for searching information.
• They did not know about the Info-Savvy Skills.	• They knew and practiced the Info-Savvy Skills during surfing.
• They were Net-Savvy.	• They were Net-Savvy and Info-Savvy too.

It is evident through Table 4.3.6 that Science method Student Teachers were frequent users of Internet. They unknowingly used some Info-Savvy Skills. After implementation of Info-Savvy Skills Programme they knew the name of different surfing skills and use of keywords. Some Student Teachers used video and image results during their practice teaching phase. They watched video results to see some science related experiments.

4.4.1.7 Teaching of Physics

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted among Physics method group.

Table 4.3.7 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• They very often used Google search engine.	• They often used different search engines.
• They did not know about Metasearch engines.	• They knew about Metasearch engines and also used during surfing.
• They were using different keywords but without proper searching strategy.	• They were using different keywords with proper searching strategy.
• They did not know about Wikipedia.	• They liked to refer Wikipedia.
• They did not know about domain name used in the URL (Uniform Resource Locater).	• They knew about domain name used in the URL (Uniform Resource Locater).
• They were not observing Information Ethics.	• They were observing Information Ethics.
• They did not know about smart notes.	• They knew about smart notes.
• They never checked authenticity of data.	• They checked authenticity of data.
• They did not check updation date or author's name while searching on websites.	• They were check updation date and author's name.
• They never tried to read references given below the webpage.	• They tried to read and link those references given below the webpage.
• They did not try to interrelate data.	• They tried to interrelate data.

Entry-Status	Post-Status
• They did not know that through images also we can get information.	• They knew that through images also we can get information.
• They did not use video results to search information.	• They used different video results for collecting related information.
• They did not know about books available on Internet.	• They knew that full length books and journals are available on Internet.
• If they did not get information in first attempt then they never tried again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.
• They did not use links given in the web pages.	• They tried to use those links given in the web pages.
• Sometimes confident about finding correct information.	• Often confident about finding correct information.
• They preferred to use books for searching information.	• They preferred to use Internet for searching information.
• They did not know about the Info-Savvy Skills.	• They knew and practiced the Info-Savvy Skills during surfing.
• They were Net-Savvy.	• They were Net-Savvy and Info-Savvy both.

It is evident through Table 4.3.7 that Physics method Student Teachers were using Internet. They did not know about Wikipedia. After implementation of Info-Savvy Skills Programme they were able to develop their surfing skills. They were using video results to try experiments. They found journals available on Internet freely. One Student Teacher's medium of instruction was Gujarati because of which he faced many difficulties.

4.4.1.8 Teaching of Chemistry

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted among Chemistry method group.

Table 4.3.8 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• They very often used Google search engine.	• They often used different search engines.
• They did not know about Metasearch engines.	• They knew about Metasearch engines and also used during surfing.
• They were using different keywords but without proper searching strategy.	• They were using different keywords with proper searching strategy.
• They knew about Wikipedia but not used.	• They started to use Wikipedia.
• They did not know about domain name used in the URL (Uniform Resource Locater).	• They knew about domain name used in the URL (Uniform Resource Locater).
• They were not observing Information Ethics.	• They were observing Information Ethics.
• They did not know about smart notes.	• They knew about smart notes.
• They never checked authenticity of data.	• They checked authenticity of data.
• They did not know how to cope up with overload of information.	• They knew that surfing skills were useful to cope with overload of information.
• They did not check updation date or author's name while searching on websites.	• They were check updation date and author's name.
• They did not try to interrelate data.	• They tried to interrelate data.
• They never tried to read references given below the webpage.	• They tried to read and link those references given below the webpage.
• They did not know that through images also we can get information.	• They knew that through images also we can get information.
• They did not use video results to search information.	• They used different video results for collecting related information.
• If they did not get information in first attempt then they never tried again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.

Entry-Status	Post-Status
• They did not use links given in the web pages.	• They tried to use the links given in the web pages.
• Sometimes confident about finding correct information.	• Often confident about finding correct information.
• They preferred to use books for searching information.	• They preferred to use Internet for searching information.
• They did not know about the Info-Savvy Skills.	• They knew and practiced the Info-Savvy Skills during surfing.
• They were Net-Savvy.	• They were Net-Savvy and Info-Savvy both.

It is evident through Table 4.3.8 that Chemistry method Student Teachers and Science method Student Teachers have same level of knowledge for using Internet. They never gave importance to cross-validate data or to check currency date. They did not know about ethical issues and Metasearch engines. After implementation of Info-Savvy Skills Programme they were able to give importance to these areas.

4.4.1.9 Teaching of Biology

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted in Biology method class.

Table 4.3.9 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• They very often used Google search engine.	• They often used different search engines.
• They did not know about Metasearch engines.	• They knew about Metasearch engines and also used during surfing.
• They were aware about use of different keywords while surfing on Internet.	• They were more focus about use of different keywords.
• They did not know about domain name used in the URL (Uniform Resource Locater).	• They knew about domain name used in the URL (Uniform Resource Locater).

Entry-Status	Post-Status
• Most of them knew about Wikipedia but not used.	• They started to use Wikipedia.
• They were not using brainstorming.	• They were started to use brainstorming.
• They were not observing Information Ethics.	• They were observing Information Ethics.
• They did not know about smart notes.	• They knew about smart notes.
• They never checked authenticity of data.	• They checked authenticity of data.
• They did not check updation date or author's name while searching on websites.	• They were check updation date and author's name.
• They never tried to read references given below the webpage.	• They tried to read and link those references given below the webpage.
• They did not use links given in the web pages.	• They tried to use the links given in the web pages.
• They did not try to interrelate data.	• They tried to interrelate data.
• They did not know that through images also we can get information.	• They knew and started using images to get information.
• They did not use video results to search information.	• They used different video results for collecting related information.
• They did not know that sometimes error arise because of unavailability of supported application software in that particular computer through which they were surfing.	• They knew that if once we were not able to get information then we have to solve it in another way. It means use another computer or to download application supported software.
• If they did not get information in first attempt then they never tried again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.
• Sometimes confident about finding correct information.	• Often confident about finding correct information.
• They preferred to use books for searching information.	• They preferred to use Internet for searching information.
• They did not know about the Info-Savvy Skills.	• They knew and practiced the Info-Savvy Skills during surfing.

Entry-Status	Post-Status
• They were Net-Savvy.	• They were Net-Savvy and Info-Savvy both.

It is evident through Table 4.3.9 that Biology method Student Teachers were also frequent users of Internet. They mostly used Google search engine. Most of them thought that Yahoo search engine is used for mailing only. They did not know about Metasearch engines and ethical issues. They never checked references written on the web page. They cross-validate information with Textbook information only. After implementation of Info-Savvy Skills Programme they were able to check authenticity on the basis of author's name and currency date. They were able to use different keywords to search information on web, video and image results. They also knew about the URLs.

4.4.1.10 Teaching of Psychology

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted among Psychology method group.

Table 4.3.10 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• Two Student Teachers never used Internet.	• They started using Internet.
• Used only Google search engine because they did not know about other search engines.	• They had knowledge about other search engines and started using different search engines.
• Student Teachers did not know about language option available on Google search engine.	• They started Hindi language for searching information through Google search engine.
• Student Teachers had fear about English language. So, they avoided using Internet.	• Availability of Hindi language on search engine reduced their fear of using Internet.
• No one knew about Metasearch engines.	• They knew about Metasearch engines.

Entry-Status	Post-Status
• They did not know about use of Keywords.	• They used different Keywords.
• Student Teachers did not know about Wikipedia.	• They knew about Wikipedia.
• They did not know about Ethical Issues.	• They knew about Ethical Issues.
• They did not know that why some document was not copy from the Internet.	• They knew that because of some Ethical Issues document was not copy from the Internet.
• They did not know about Smart Notes.	• They knew about Smart Notes.
• They did not know about surfing skills.	• They knew about surfing skills and also used them.
• They cross-validated information with the textbook only.	• They were able to cross-validate information with author's name, qualification, current date and on the basis of domain name.
• They did not know about references given below web pages.	• They checked references and tried to link it.
• Student Teachers did not know about links given in the web pages.	• They knew and also tried to use those links.
• They did not know that information can be searched through images.	• They knew and tried to search information through images.
• They did not know that information can be searched through video results.	• They knew that information can be searched through video results.
• If once they were not able to search information from Internet, they never tried it again.	• They tried again and again to solve their problem.
• They thought that it was very difficult to search information on Internet.	• They faced less difficulty as they thought earlier.
• Less confident about finding the information from the websites.	• More confident about finding the information from the websites.
• They preferred to go to library.	• They preferred to use Internet.
• They did not know about the Info-Savvy Skills.	• They knew and also practiced Info-Savvy Skills while surfing.

Entry-Status	Post-Status
• They were not Net-Savvy and Info-Savvy.	• They developed Info-Savvy Skills.

It is evident through Table 4.3.10 that Psychology method Student Teachers never used Internet. They possessed less ICT literacy. After implementation of Info-Savvy Skills Programme they started using Internet. They had theoretical knowledge of Info-Savvy Skills but they were new users, so they required more practice. They developed the various Info-Savvy Skills.

4.4.1.11 Teaching of Social Science

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted among Social Science method group.

Table 4.3.11 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• Some Student Teachers never used Internet.	• They started using Internet.
• They used only Google search engine because they did not know about other search engines.	• They had knowledge about other search engines and started using different search engines.
• Some Student Teachers did not know about language option available on Google search engine.	• They started using their own mother tongue for searching information through Google search engine.
• No one knew about Metasearch engines.	• They knew about Metasearch engines.
• They did not know about use of Keywords.	• They used different Keywords.
• They did not see how many results available.	• They saw number of results available to them.
• Very less number of Student Teachers knew about Wikipedia.	• They knew about Wikipedia.
• They did not know that Wikipedia provide information in different Indian languages.	• They knew and started using Wikipedia in their own languages.

Entry-Status	Post-Status
• They did not know about Ethical Issues.	• They knew about Ethical Issues.
• They did not know that why some document was not copy from the Internet.	• They knew that because of some Ethical Issues document was not copy from the Internet.
• They did not know about Smart Notes.	• They knew about Smart Notes.
They cross-validated information with the textbook only.	• They were able to cross-validate information with author's name, qualification, current date and on the basis of domain name.
• They never tried to search information through images.	• They knew and tried to search information through images.
• They did not know that information can be searched through video results.	• They knew that information can be searched through video results.
• They shown less interest in searching information through Internet.	• They found it interesting to search information through Internet for Social Science method.
• If once they were not able to search information from Internet, they never tried it again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.
• They never checked references given below web pages.	• They checked references and tried to link it.
• Most Student Teachers never tried links given in the web pages.	• They knew and also tried to use the links.
• Less confident about finding the information from the websites.	• More confident about finding the information from the websites.
• They preferred to go to library.	• They preferred to use Internet.
• They did not know about the Info-Savvy Skills.	• They knew and also practiced the Info-Savvy Skills while surfing.
• Few Student Teachers were Net-Savvy.	• They were Info-Savvy.

It is evident through Table 4.3.11 that Social Science Student Teachers did not know about ethical issues and Metasearch engines. Some Student Teachers were new users. After implementation of Info-Savvy Programme they learnt names of different

surfing skills and use of different keywords. Most of Student Teachers started using Internet for History and Geography. One Student Teacher thought that she found lots of information on 'Cultural Heritage of India', on the basis of which she can select this topic for Doctoral Research.

4.4.1.12 Teaching of Commerce

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted in Commerce method class.

Table 4.3.12 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• They very often used Google search engine.	• They often used different search engines.
• They did not know about Metasearch engines.	• They knew about Metasearch engines and also used during surfing.
• They were using different keywords but without proper searching strategy.	• They were using different keywords with proper searching strategy.
• Some Student Teachers did not know about Facebook.	• They knew about Facebook.
• One student teacher used Internet only for chat and email.	• Student Teachers knew that information can also be collected through chat and email.
• Some Student Teachers did not know about Wikipedia.	• They liked to prefer Wikipedia first.
• They did not know about domain name used in the URL (Uniform Resource Locater).	• They knew about domain name used in the URL (Uniform Resource Locater).
• They were not observing Information Ethics.	• They were observing Information Ethics.
• They did not know about the difference in facts and opinions related to information available on Internet.	• They knew the difference between the facts and opinions related to information available on Internet.
• They did not know about smart notes.	• They knew about smart notes.

Entry-Status	Post-Status
• They never checked authenticity of data.	• They checked authenticity of data.
• They did not check updation date or author's name while searching on websites.	• They were checking updation date and author's name.
• Very few Student Teachers tried to interrelate data.	• They tried to interrelate data.
• They never tried to read references given below the webpage.	• They read and tried to link those references given below the webpage.
• Most of Student Teachers did not use links given in the web pages.	• They tried to use those links given in the web pages.
• They did not know that through images also we can get information.	• They knew that through images also we can get information.
• They did not use video results to search information.	• They used different video results for collecting related information.
• If they did not get information in first attempt then they never tried again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.
• Sometimes confident about finding correct information.	• Often confident about finding correct information.
• They preferred to use books for searching information.	• They preferred to use Internet for searching information.
• They did not know about the Info-Savvy Skills.	• They knew and practiced the Info-Savvy Skills during surfing.
• They were Net-Savvy.	• They were Net-Savvy and Info-Savvy both.

It is evident through Table 4.3.12 that Commerce method Student Teachers were using Internet but mostly for mailing and chat. After implementation of Info-Savvy Skills Programme it was found that the Student Teachers started using Internet for their subject. They found that if the keyword is long then they were not able to decide to what extent problem was solved. But when keyword is specific then they were able to identify to what extent the problem was solved.

4.4.1.13 Teaching of Accountancy

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted in Accountancy method class.

Table 4.3.13 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• They very often used Google search engine.	• They often used different search engines.
• They did not know about Metasearch engines.	• They knew about Metasearch engines and also used these during surfing.
• They normally did not use Internet for Accountancy method.	• They started using Internet for Accountancy method.
• They were using different keywords but without proper searching strategy.	• They were using different keywords with proper searching strategy.
• Some Student Teachers did not know about Wikipedia.	• They liked to refer Wikipedia.
• They did not know about domain name used in the URL (Uniform Resource Locater).	• They knew about domain name used in the URL (Uniform Resource Locater).
• They were not observing Information Ethics.	• They were observing Information Ethics.
• They did not know about smart notes.	• They knew about smart notes.
• They did not know about the difference in facts and opinions related to information available on Internet.	• They knew the difference between the facts and opinions related to information available on Internet.
• They never checked authenticity of data.	• They checked authenticity of data.
• They never tried to read references given below the webpage.	• They tried to read and link those references given below the webpage.
• They did not know that through images also we can get information.	• They knew that through images also we can get information.
• They did not used video results to searched information.	• They used different video results for collecting related information.

Entry-Status	Post-Status
• They did not check updation date or author's name while searching on websites.	• They were check updation date and author's name.
• Most of Student Teachers did not used links given in the web pages.	• They tried to use the links given in the web pages.
• Very few Student Teachers tried to interrelate data.	• They tried to interrelate data.
• If they did not get information in first attempt then they never tried again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.
• Sometimes confident about finding correct information.	• Often confident about finding correct information.
• They preferred to use books for searching information.	• They preferred to use Internet for searching information.
• They did not know about the Info-Savvy Skills.	• They knew and practiced the Info-Savvy Skills during surfing.
• They were Net-Savvy.	• They were Net-Savvy and Info-Savvy both.

It is evident through Table 4.3.13 that Accountancy method Student Teachers and Commerce method Student Teachers possessed equal knowledge of Internet. They used Internet for mailing and chat. After implementation of Info-Savvy Skills Programme it was found that they developed interest in using Internet for Accountancy to know different innovations done in Accounting Standards.

4.4.1.14 Teaching of Economics

To check the Entry-status and Post-Status of Student Teachers on Info-Savvy skills Focussed Group Discussion was conducted in Economics method class.

Table 4.3.14 Entry-Status and Post-Status of Info-Savvy Skills Method wise

Entry-Status	Post-Status
• They very often used Google search engine.	• They often used different search engines.

Entry-Status	Post-Status
• They did not know about Metasearch engines.	• They knew about Metasearch engines and also used these during surfing.
• They normally did not use Internet for Economics method.	• They started using Internet for Economics method.
• They were using different keywords but without proper searching strategy.	• They were using different keywords with proper searching strategy.
• Some Student Teachers did not know about Wikipedia.	• They liked to refer Wikipedia.
• They did not know about domain name used in the URL (Uniform Resource Locater).	• They knew about domain name used in the URL (Uniform Resource Locater).
• They were not observing Information Ethics.	• They were observing Information Ethics.
• They did not know about smart notes.	• They knew about smart notes.
• They did not know about the difference in facts and opinions related to information available on Internet.	• They knew the difference between the facts and opinions related to information available on Internet.
• They never checked authenticity of data.	• They checked authenticity of data.
• They did not check updation date or author's name while searching on websites.	• They were check updation date and author's name.
• They never tried to read references given below the webpage.	• They tried to read and link those references given below the webpage.
• Very few Student Teachers tried to interrelate data.	• They tried to interrelate data.
• They did not know that through images also we can get information.	• They knew that through images also we can get information.
• They did not use video results to search information.	• They used different video results for collecting related information.
• If they did not get information in first attempt then they never tried again.	• They tried again and again to solve their problem.
• They faced many difficulties.	• They faced less difficulty.

Entry-Status	Post-Status
• Most of Student Teachers did not used links given in the web pages.	• They tried to use the links given in the web pages.
• Moderate confident about finding correct information.	• Often confident about finding correct information.
• They preferred to use books for searching information.	• They preferred to use Internet for searching information.
• They did not know about the Info-Savvy Skills.	• They knew and practiced the Info-Savvy Skills during surfing.
• They were Net-Savvy.	• They were Net-Savvy and Info-Savvy both.

It is evident through Table 4.3.14 that Economics method Student Teachers rarely used Internet for their subject. Like other method Student Teachers they also did not know about ethical issues and Metasearch engines. They never checked reference given on the web page. After implementation of Info-Savvy Skills they used Info-Savvy Skills and searched information on Internet to complete their assignment work related to 'Budget'. They checked authenticity of documents available on websites, on the basis of domain name.

4.4.2 NARRATIVES OF STUDENT TEACHERS

Narratives were collected from the Student Teachers to study the status of Student Teachers on Info-Savvy Skills. For that reason 10 criteria were decided by the investigator. Total 159 Student Teachers produced Narratives. Further on the basis of content analysis the findings are presented as follows

- **Search Engines Used**

  5% of Student Teachers were not able to write the names of search engines. 60% of Student Teachers used only one search engine. 29% of Student Teachers used two to three search engines. 5% of Student Teachers used four search engines while only 1% of Student Teachers used more than 5 search engines.

- **Keyword identified**

  4% of Student Teachers were not able to identify a keyword. 62% of Student Teachers used only one keyword. 21% of Student Teachers used two to three

keywords. 12% of Student Teachers used four different keywords. 1% of Student Teachers used five keywords.

- **Surfing Skills Used**

16% of Student Teachers did not know about surfing skills. 24% of Student Teachers just knew the names of surfing skills. 38% of Student Teachers used surfing skills, namely, skimming, scanning, switching and they have written briefly about the skills. 20% of Student Teachers explained about surfing skills used by them in detail, namely, skimming, scanning, switching, randomization and skipping. 2% of Student Teachers also used another skill of surfing, namely, hyperlinking.

- **Difficulty encountered**

11% of Student Teachers did not express the difficulties they encountered. 22% of Student Teachers found difficulty of over load of information. 54% of Student Teachers faced various difficulties, like page could not be displayed, meta-search engines and yahoo search engine could not be opened, and over load of information. 13% of Student Teachers could not link the web page, and open copyright act, and privacy policy. They could not find out author's name.

- **Data Analysis**

14% of Student Teachers were not able to analyse the collected data. 26% of Student Teachers were able to write name of author and date of modification. 41% of Student Teachers were able to check whether data were authentic or not and were also able to differentiate relevant data and irrelevant data. 16% of Student Teachers were able to differentiate facts and opinions. 3% of Student Teachers were able to establish links, that is, they were able to correlate data.

- **Information Ethics observed**

35% Student Teachers were not able to observe information ethics. 20% of Student Teachers were able to observe copyright given in the article. 32% of Student Teachers knew that if a document is in PDF format then it contains copyright. 11% of Student Teachers were able to open privacy policy and read it. 2% of Student Teachers saw and read copyright act and privacy policy in two or more than two websites.

- **Information Application Format**

14% of Student Teachers did not know about information application format. 27% of Student Teachers observed only text format information on websites.

39% of Student Teachers used Microsoft Word format even they saved images and pictures also in that. 17% of Student Teachers found audio and videos from the websites and they downloaded it. 3% of Student Teachers used power point and organized collected information with the help of pictures and videos.

- **Educational Immersion**

  14% of Student Teachers did not understand the meaning of it. 19% of Student Teachers searched information but were not able to write it. 42% of Student Teachers used this knowledge for their students and also uploaded their knowledge. 23% of Student Teachers used this knowledge for their assignment and examination. 2% of Student Teachers collected and organized information in such a way that they can use it in future also.

- **Problem Solved**

  5% of Student Teachers were not able to know whether problem was solved or not. 22% of Student Teachers have just written problem solved. 47% of Student Teachers have written percentage of problems solved. 20% of Student Teachers have written that there were many questions which were not answered. 6% of Student Teachers solved their problem by searching on different search engines.

- **Recycling Info-Savvy Skills**

  13% of Student Teachers did not recycle Info-Savvy Skills. 26% of Student Teachers have just written the names of Info-Savvy skills. 33% of Student Teachers have written in details about Info-Savvy Skills. 22% of Student Teachers recycled Info-Savvy Skills once. 6% of Student Teachers again and again searched on websites with different key words or search engines.

4.4.3 Reactions of the Student Teachers towards the developed programme

Total 133 Student Teachers given their Reactions towards the developed Programme.

Table 4.4 Reaction Scale

Please select the number and tick mark (✓) which indicates your level of agreement with each statement:
1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly Agree

SD 1	D 2	N 3	A 4	SA 5	Particulars	Chi-square Value (χ)
2	0	6	70	54	You are able to identify a problem	165.57
0	2	13	48	69	You are able to identify key words from the problem	142.16
0	4	21	61	47	You are able to frame questions around the key words	107.12
1	8	24	56	44	After identifying a problem you use brainstorming	81.77
0	5	25	64	39	You are able to think divergently	102.6
2	2	14	64	49	You are able to think alternatives for the problem	124.76
1	6	32	69	24	You are able to identify ethical issues from the problem	110.35
1	2	20	62	47	You are able to listen deeply	112.62
1	5	26	66	35	You are able to viewing wisely	103.2
1	2	27	73	30	You are able to speak critically	128.77
0	16	40	58	14	You duly reflect before communication	83.57
1	9	23	69	30	You filter information from noise	105.58
0	4	12	54	63	You share your knowledge and experiences with others	131.84
1	5	20	77	30	You are able to find out location of information	139.74
1	3	25	68	34	You have skills to locate the information on various media	113.85
1	6	24	73	29	You are using variety of paper and electronic sources to get information	122
2	9	28	63	29	You are able to prioritize searching strategies	85.75
1	6	12	66	48	You are able to do skimming of the learning resources	124.18
0	5	13	65	50	You are able to do scanning of the learning resources	127.1

SD 1	D 2	N 3	A 4	SA 5	Particulars	Chi-square Value (χ)
2	2	26	63	39	You are able to differentiate fact, belief and opinion	101.86
2	1	20	65	45	You are able to take smart notes	117.19
2	5	15	66	42	You are able to differentiate relevant and irrelevant data	115.15
1	1	30	74	25	You are able to check authenticity of data	136.29
1	6	30	58	37	You are able to collect authentic data from the Internet	82.77
20	31	35	34	11	Collected data can be presented in text form only	16.45
0	8	32	70	22	You are able to turn data into information	113.15
1	1	20	78	32	You are able to turn data into usable knowledge	152.47
0	4	20	64	42	At the applying stage we can use different forms of presentation	111.39
6	9	26	43	45	Assessing is the final stage of Info-Savvy process	51.9
2	1	15	75	40	You are able to ask question to yourself that problem has been identified in proper manner	147.27
0	5	25	73	29	You are able to get answer that data collected were sufficient	126.34
2	2	21	76	31	You are able to analyze data in proper manner	140.19
0	4	14	65	49	You can apply the collected information usefully	127.02
2	17	39	63	12	You are able to solve problem every time	89.81
3	12	32	56	29	You are able to search through meta-search engines	63.23
2	19	52	45	14	Authenticity of data can be checked very easily	68.36
1	3	16	55	58	Skimming is very useful when we search on Internet	117.19
2	2	12	57	59	Surfing on Internet requires various skills	128.68
3	2	4	44	78	Info-Savvy skills help student-teachers	176.2
3	5	6	39	79	Info-Savvy skills are useful for every person who wants to gain knowledge or information	164.66
1	4	25	51	50	While surfing on Internet, ethical issues are important	88.19
3	3	30	61	35	Surfing requires a proper syntax of the Info-Savvy skills	90.12
23	4	27	31	15	Info-Savvy skills are useful only for Internet surfing	**8.46** -

SD 1	D 2	N 3	A 4	SA 5	Particulars	Chi-square Value (χ)
3	5	25	43	53	You are able to mail information to another person	77.09
2	3	26	45	54	You are able to use Info-Savvy skills in the library also	86.53
0	0	5	53	75	Smart notes are useful	185.01
18	6	37	35	15	Information available on the Internet is always authentic	14.77
2	5	24	48	53	Wikipedia is one of the learning resources most frequently used on the Internet	84.59

Note: - 0.05 level null hypothesis not rejected

The Reactions of Student Teachers on Info-Savvy skills was found to be encouraging as evident through the **Table 4.4**. The null hypothesis that there will be no significant difference between observed frequencies and frequencies expected against equal probability has been rejected against all the statements of the Rating Scale at 0.01 level except the statement Info-Savvy Skills are useful only for Internet surfing.

4.5 OVERALL SCENARIO ON THE INFO-SAVVY SKILLS

Info-Savvy Skills of Student Teachers were developed significantly through Info-Savvy Skills programme. All the Student Teachers agreed on that by enhancing Info-Savvy Skills, they were able to search information accurately and easily. Student Teachers learnt about Metasearch engines. All the Student Teachers started taking care of ethical issues. Most of the Student Teachers started using different keywords. Search engines other than Google search engine were also used by Student Teachers. A few Student Teachers first time used Wikipedia. 7 Student Teachers used Google search engine in their mother tongue for the first time. All the Student Teachers started checking authenticity of information by checking author's name and updation date. All the Student Teachers learnt the meaning of skimming, scanning, and skipping and how to use them. Most of the Student Teachers were able to apply collected information in suitable format. Some Student Teachers come to know that some books also available on websites for free. One student teacher used Internet through his mobile phone. Some Student Teachers used Internet for the

first time but because they knew about Info-Savvy Skills they didn't find much difficulty during surfing. Language Student Teachers also started using Internet. Student Teachers started using Info-Savvy Skills during their assignment work, practice teaching and for their core subjects.

Sanskrit Method students first time used Internet for Sanskrit. Some Gujarati Method Student Teachers first time come to know about availability of audios of different poems on Internet. Psychology Method Student Teachers first time used Internet. English Method Student Teachers were able to identify facts and opinions more clearly as compared to Student Teachers of other Methods. Mathematics Method Student Teachers were started using Internet frequently for Mathematics. Hindi Method Student Teachers were able to search information in Hindi language. Social Science Method students were able to cross validate data and check updation of webpages. Science Method Student Teachers were able to use videos and images for their presentation of lesson plan. Science Method Student Teachers were already using Internet but after learning Info-Savvy Skills they were able to save their time and energy. Chemistry Method Student Teachers started using Metasearch engines.