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CHAPTER 4

ANALYSIS OF DATA

(A) INTRODUCTION :

(1) The analysis of data was presented in six sections. The first section was utilised with reference to the objective of studying the performance of the B.Ed. and M.Ed. students in the five educational aspects, namely Awareness of Recent Developments in Education, Knowledge of Recent Developments in Education, Utilisation of Sources of Information on Recent Developments in Education, Professional Teacher Attitude and Grade Point Average by analysing the data in terms of frequency distributions and the associated descriptive statistics for the B.Ed. and the M.Ed. sample separately. Towards the objective of comparing the performance of B.Ed. and M.Ed. samples in the first four educational aspects among the five mentioned above, (i) the B.Ed. and M.Ed. students were classified into Certain categories on the basis of their performance and the percentage of B.Ed. and M.Ed. students in each such category was compared, (ii) the ogives were drawn to study the pattern of distribution of the performance scores of the B.Ed. and M.Ed. students in the four educational aspects and (iii) 't' test was applied for ascertaining the significance of the difference between the Means of B.Ed. and M.Ed. samples relating to their performance in the first

four educational aspects.

(2) In the second section with reference to the objective of studying the impact of the eleven independent variables on the performance of B.Ed. and M.Ed. students in the two critorion educational variables namely Awareness and Knowledge of Recent Developments in Education, the data was analysed. To recall briefly, out of the eleven independent variables two were institutional variables, viz. (i) Urban/rural location of the Colleges of Education and (ii)Government/Non-government management of the colleges of Education and nine others were biographical variables, viz. (i) Sex; (ii) Level of general education; (iii) Age; (iv) Area of specialisation; (v) Personal Status (vi) Socio-Economic Status, (vii) Financial assistance for studies, (viii) Teaching Experience and (ix) Level of achievement in degree/post-graduate degree course of the B.Ed. and M.Ed. students. The eleventh independent variable, namely level of achievement in degree/post-graduate degree course was studied only with reference to the B.Ed. sample.

In this section of the analysis of data, two statistical tests had been used in this regard: (i) the Chi-square test for establishing any relationship between an independent variable and the criterion educational variable and (ii) the Critical Ratio Test/Fisher & Behran's d Test for establishing the significance of the difference between two Means, depending on the results of the F test. If the F test showed homogeneity of the variances of the groups, then Critical Ratio Test was applied and when lack of homogeneity

of the variances was established Fisher & Behren's d Test was administered. The null hypotheses in this respect were tested with one tail and two-tailed tests and the minimum level of significance of the result accepted was .05 level.

(3) In the third section of the analysis of data, descriptive discussion was presented on the analysis of the student-teachers' Awareness of the 130 items of Recent Developments grouped under 12 categories, their Utilisation of the 10 Sources of Information for awareness Knowledge of the 130 items and their Knowledge of 69 items of Recent Developments, following the item-wise descriptive analysis of the student-teachers' response to the three major tools developed in this research, namely RSARDE, CLUSI, and TKRDE. Their level of Awareness of each Recent Development, the percentage of student-teachers' utilising the different Sources of Information relating to each Development and the percentage of students having Correct Knowledge of each Development were discussed. Besides the performance of the two samples in this respect was compared.

(4) The fourth section of the analysis concerned itself with the study of the relationship between the five educational variables using the product moment method of bivariate correlation and this section was intended to establish the correlates of Awareness and Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. students. Since the correlates of Awareness and Knowledge of Recent Developments in Education had an important place in this investigation; there was adequate discussion on this in this section.

(5) One of the objectives of this research was to establish the relationship between the five major educational variables chosen for this investigation. The fifth section of the data-analysis was used for calculating partial correlations of the first, second and third order. The partial r's obtained had been tested for significance. By holding one/two/three independent variables statistically constant the relationship between two variables had been studied. In this section, an elaborate conceptual discussion on the inter-relationship among these five variables had been carried out.

(6) With reference to the objective of making a predictive study of Awareness and knowledge of Recent Developments in Education of the B.Ed. and M.Ed. students, the sixth section of the analysis of data had been utilised to undertake multiple correlation and multiple regression analysis. Prediction of Awareness of Recent Developments in Education and Knowledge of Recent Developments in Education was attempted for both B.Ed. and M.Ed. student populations, using utilisation of Sources of Information on Recent Developments, Professional Teacher Attitude and Grade Point Average of the student-teachers as predictor variables with specific reference to this part of the study. Awareness of Recent Developments in Education and Knowledge of Recent Developments in Education were the two criterion variables in the multiple regression study. The 'backward Solution approach' in linear multiple regression was adopted. Regresion equations were arrived at for the B.Ed. and M.Ed. samples separately, multiple correlations and study of significance of partial regression coefficients were also completed.

SECTION :1

(B) PERFORMANCE OF B.Ed. & M.Ed. STUDENTS ON FIVE EDUCATIONAL ASPECTS :

B:1 Awareness of the Recent Developments in Education of the B.Ed. and M.Ed. Students:

The Awareness of the Recent Developments in Education of the B.Ed. and M.Ed. students was considered as one of the two criterion variables and was measured, using the Rating Scale and the raw scores were converted as percentage scores and the frequencyy distributions of the scores for the two samples were presented in Table:4.05 below:

Table:4.01: Awareness of Recent Developments in Education of the B.Ed. & M.Ed. Students - Frequency Distributions :

Class Intervals of the Percentage Scores (1)	Frequency of Occurance (2)		Cumulative Frequency (3)		Cumulative Frequency (%) (4)	
	B.Ed.	M.Ed.	B.Ed.	M.Ed.	B.Ed.	M.Ed.
96 - 100	2	2	546	78	100.0	100.0
91 - 95	5	2	544	76	99.6	97.4
86 - 90	9	1	539	74	98.7	94.9
81 - 85	12	0	530	73	97.1	93.6
76 - 80	21	3	518	73	94.9	93.6
71 - 75	39	8	497	70	91.0	89.7
66 - 70	57	13	458	62	83.9	79.5
61 - 65	72	5	401	49	73.4	62.8
56 - 60	64	12	329	44	60.3	56.4
51 - 55	55	10	265	32	48.5	41.0
46 - 50	58	5	210	22	38.5	28.2
41 - 45	56	6	152	17	27.8	21.8
36 - 40	46	7	96	11	17.6	14.1
31 - 35	22	1	50	4	9.2	5.1
26 - 30	18	1	28	3	5.1	3.8
21 - 25	8	1	10	2	1.8	2.6
16 - 20	2	1	2	1	0.4	1.3
	N = 546	78				

In the B.Ed. sample with respect to Awareness of Recent Developments, the Mean, Median and Mode were 55-61, 56-13 and 57-17 respectively. The Standard Error of the Mean was 0.65. The Standard Deviation of the Awareness scores was 15.29 and its Standard Error was 0.46. The frequency distribution had a skewness of -0.102 and its Kurtosis being 0.285, it was slightly party-kurtic.

Awareness scores upto 25% were held to indicate mild unawareness, 26-50% mild awareness; 51-75% strong awareness and 76%-100% very strong awareness state. Accordingly 1.8% of the B.Ed. students were mildly unaware of Recent Developments in Education, 36.6% were mildly aware, 52.6% were strongly aware and 9% were very strongly aware of Recent Developments. It was inferred that in the B.Ed. Course Awareness of Recent Developments had not developed on the part of the students to the extent one would have wished for since one-third of the B.Ed. sample was mildly unaware of Recent Developments in Education.

In the M.Ed. sample, with respect to Awareness of Recent Developments, the Mean, Median and Mode were 58.47, 58.97 and 59.97 respectively. The Standard Error of the Mean was 1.81. The Standard Deviation was 16.04 and its Standard Error was 1.28. The distribution had a skewness of -0.094 and therefore slightly negatively skewed. Its Kurtosis being 0.254, it was slightly leptokurtic.

In the M.Ed. sample, 2.6% were mildly unaware, 25.6% were mildly aware, 61.5% were strongly aware and 7.7% were very strongly aware of the Recent Developments in Education. It was

inferred that in the M.Ed. Course, the students had not developed that level of awareness, one would wish for because one-fourth of the sample was mildly unaware of the Recent Developments in Education.

A Comparative Study of Awareness of Recent Developments in Education of B.Ed. and M.Ed. Students :

For the purpose of making a graphic comparison of the distribution of Awareness Scores in the B.Ed. and M.Ed. Samples two ogives were drawn based on the Table below and the ogives were presented in Figure-1.

Table: 4:02. : Cumulative Frequency in Percentage of Percentage Scores of B.Ed.Students (N-546) and M.Ed. Students (N-78) on AWARENESS OF RECENT DEVELOPMENT IN EDUCATION:

Real Limits (1)	Upper Limits (2)	B.Ed.Students f (3)	B.Ed.Students C.F. (4)	B.Ed.Students C.F.in % (5)	M.Ed.Students f (6)	M.Ed.Students C.F. (7)	M.Ed.Students C.F.in % (8)
95 - 100	100	2	546	100.0	2	78	100.0
90 - 95	95	5	544	96.0	2	76	97.4
85 - 90	90	12	539	98.7	1	74	94.9
80 - 85	85	13	527	96.5	-	73	93.6
75 - 80	80	29	514	94.1	3	73	93.6
70 - 75	75	44	485	88.8	10	70	89.7
65 - 70	70	56	441	80.8	12	60	76.9
60 - 65	65	71	385	70.5	9	48	61.5
55 - 60	60	69	314	57.5	8	39	50.0
50 - 55	55	44	245	44.9	10	31	39.7
45 - 50	50	60	201	36.8	5	21	26.9
40 - 45	45	54	141	25.8	6	16	20.5
35 - 40	40	40	87	15.9	6	10	12.8
30 - 35	35	23	47	8.6	2	4	5.1
25 - 30	30	15	24	4.4	-	2	2.6
20 - 25	25	8	9	1.7	1	2	2.6
15 - 20	20	1	1	0.2	1	1	1.3

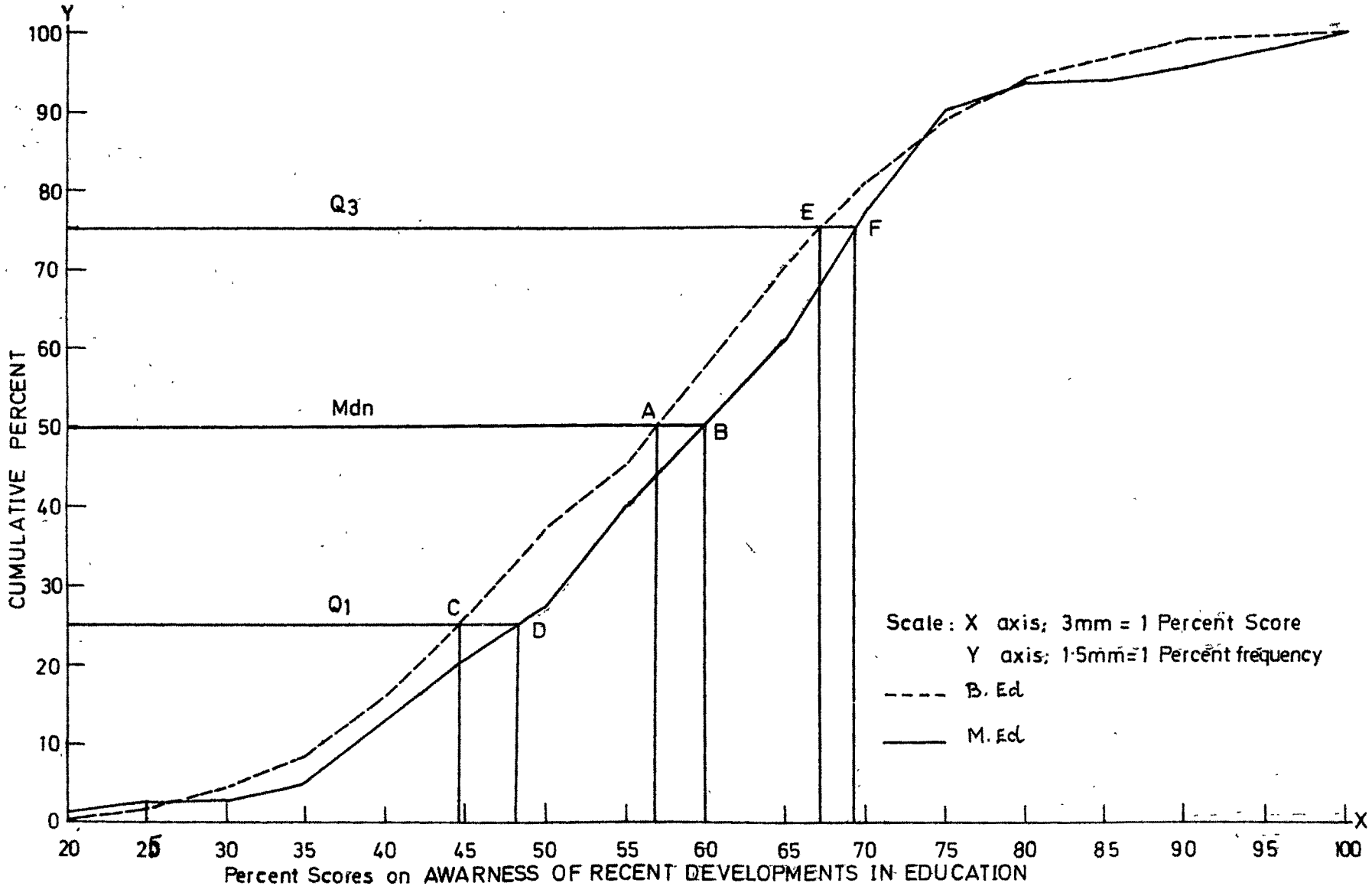

Figure 1.0 GIVES showing the Percentage Scores of B.Ed students (N = 546) and M. Ed students (N = 75) on AWARNESS OF RECEN DEVELOPMENT IN EDUCATION

Figure-1 helped to bring out several conclusions. M.Ed. Students' ogive lay to the right of the B.Ed. Students' ogive almost over the entire range, but for a small negligible overlap at the higher end of the distribution, showing that M.Ed. students scored higher consistently over B.Ed. students. However, the differences between the two groups on Awareness of Recent Developments in Education were not large as shown by the distances separating the two curves at various levels. M.Ed. students' Median was 60% and the B.Ed. students' Median was 57; and the difference between these two measurements was represented by the line AB. The difference between two Q_1's were represented by the lines CD and EF respectively. The differences between the two groups at Q_3 was less than at the Median. The difference between the two groups at Q_1 was slightly higher than at the Median.

The ogives were used to study the overlap of the two distributions. By extending the vertical line through B (the M.Ed. students' Median) upto the ogive of the B.Ed. Students, it became clear that 58% of the B.Ed. students fell below the Median of M.Ed. students. That meant 42% of the B.Ed. students excelled the Median of M.Ed. students with regard to Awareness of Recent Developments. The vertical line through A (B.Ed. students' Median) cut the ogive of M.Ed. students at approximately 44th percentile. Therefore 44% of the M.Ed. students were below the Median of B.Ed. students and 56% only were above that point.

A Second method to study on a comparative basis the

Awareness of Recent Developments of the B.Ed. and M.Ed. student samples was to apply 't' test for establishing the significance of the difference between the two Means.

Table:4.03 : Testing the Significance of the difference between the Means of B.Ed. and M.Ed. Samples in Awareness of Recent Developments in Education by 't' Test :

Variable Tested (1)	Groups (2)	N (3)	Mean (4)	S.E.of Mean (5)	t (6)	Result (7)
Awareness of Recent Developments	B.Ed students	546	55.61	0.65	1.48	NS
	M.Ed students	78	58.47	1.82		

The mean Awareness of the B.Ed. and M.Ed. samples were 55.61% and 58.47% respectively. However difference in the Mean Awareness of the two groups regarding Recent Developments in Education was not significant, as revealed in Table:4.03.

Therefore, the null hypothesis, that the M.Ed. students would not have higher Awareness of Recent Developments in Education could not be rejected with the data on hand. The absence of a significant difference between the B.Ed. and M.Ed. students in their Awareness of Recent Developments in Education might not have been a deliberate objective of the B.Ed. and M.Ed. courses in the university of Madras.

B:2 Knowledge of the Recent Developments in Education of the B.Ed. and M.Ed. students :

The Knowledge of Recent Developments in Education of the student-teachers was considered as one of the two educational criteria and was tested and measured by using the Test on Knowledge of Recent Developments in Education, evolved in

in this research. The scores on the knowledge test had been converted to percentage scores and the frequency distributions of the scores for the two samples were given below in Table:4.04.

Table:4.04 : Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. students - Frequency Distributions:

Class Intervals of the Percentage Scores	Frequency of Occurance		Cumulative Frequency		Cumulative Frequency (%)	
	B.Ed.	M.Ed.	B.Ed.	M.Ed.	B.Ed.	M.Ed.
(1)	(2)		(3)		(4)	
81 - 85	1	1	546	78	100.0	100.0
76 - 80	3	1	545	77	99.8	98.7
71 - 75	15	9	542	76	99.3	97.4
66 - 70	23	14	527	67	96.5	85.9
61 - 65	53	12	504	53	92.3	67.9
56 - 60	37	16	451	41	82.6	52.6
51 - 55	82	12	414	25	75.8	32.1
46 - 50	49	4	332	13	60.8	16.7
41 - 45	44	3	283	9	51.8	11.5
36 - 40	34	0	239	6	43.8	7.7
31 - 35	47	2	205	6	37.5	7.7
26 - 30	79	1	158	4	28.9	5.1
21 - 25	55	1	79	3	14.5	3.8
16 - 20	22	2	24	2	4.4	2.6
11 - 15	2		2		0.4	
	N=546	78				

In the B.Ed. sample, regarding knowledge of Recent Developments in Education, the Mean, Median and Mode were 43.58, 44.36 and 45.92 respectively. The Standard Error of the Mean was 0.67. The Standard Deviation of the knowledge scores was 15.60 and its Standard Error was 0.47. The frequency distribution had a skewness of -0.150. Its Kurtosis was 0.318 and hence slightly platykurtic.

In the M.Ed. sample, the Mean, Median and Mode were 58.73, 59.26 and 60.32 respectively and the Standard Error of the Mean was 1.40. The standard Deviation was 12.32 and its Standard Error was 0.99. The frequency distribution had a Skewness of -0.129. Its Kurtosis being 0.243, it was slightly lepotokurtic.

It was inferred, that in the B.Ed. course students had not developed that level of Knowledge of Recent Developments in Education that could be expected of them, judged by the fact that only 43.58% was the Mean Score of the group in this respect. Similar observation could be made for the M.Ed. course, wherein one would expect a higher Mean than the actual 58.73%.

A Comparative study of the Knowledge of Recent Developments in Education of B.Ed. and M.Ed. students:

A comparison of the performance of the two groups was attempted by following the three methods : (i) classifying the student-teachers into different categories on the basis of their performance level in the Knowledge Test; (ii) representing graphically the two frequency distributions in the form of ogives and (iii) applying 't' test for establishing the significance of the difference between the Means.

Table:4.05 : Classification of B.Ed. and M.Ed. students on their Knowledge of Recent Developments :

S.No. (1)	Description of the Category (2)	Range of Knowledge Scores (3)	Percentage of Students in the Categories	
			B.Ed. (4)	M.Ed. (5)
1	Outstanding	81 - 100	0.18	1.28
2	Very Good	71 - 80	3.30	12.82
3	Good	61 - 70	13.92	33.33
4	Average	41 - 60	38.83	44.87
5	Below Average	31 - 40	14.84	2.56
6	Poor	21 - 30	24.54	2.56
7	Very Poor	1 - 20	4.40	2.56

With respect to Table : 4.05, the percentage of M.Ed. students in the first four categories was distinctly higher than B.Ed. students. Besides 43.77% of B.Ed. students were scoring below the average category while there were only 7.69% of M.Ed. students in similar status.

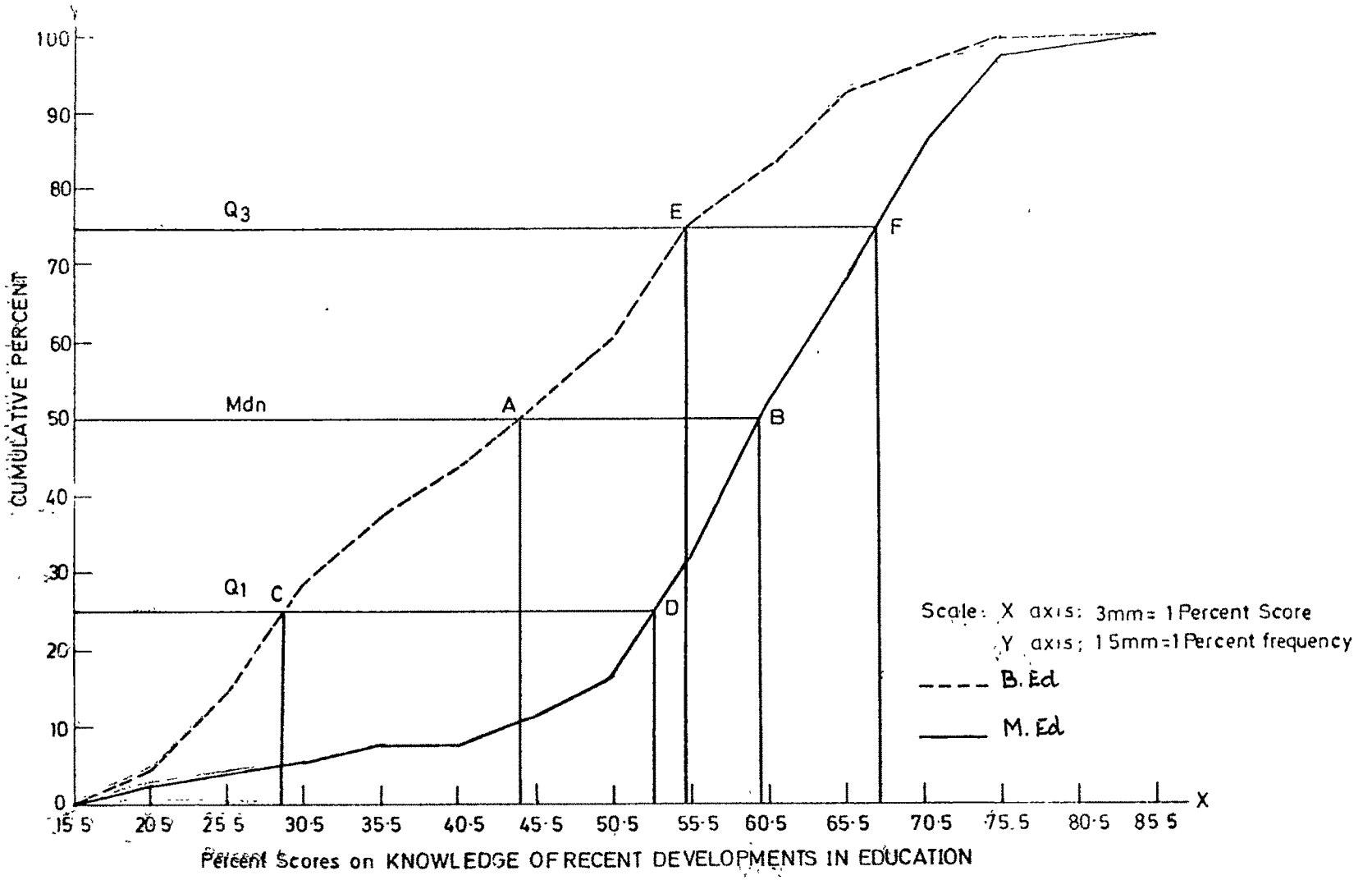

Figure 2: O GIVES showing the Percentage Scores of B.Ed students (N = 546) and M.Ed students (N = 78) on KNOWLEDGE OF RECENT DEVELOPMENTS IN EDUCATION

Table:4.06 : Cumulative Frequency in Percentage of Scores of B.Ed. students (N=546) and M.Ed. students (N=78) on KNOWLEDGE OF RECENT DEVELOPMENTS :

Real Limits (1)	Upper Limits (2)	B.Ed. Students F (3)	B.Ed. Students C.F. (4)	B.Ed. Students C.F. in% (5)	M.Ed. Students F (6)	M.Ed. Students C.F. (7)	M.Ed. Students C.F. in % (8)
80.5 - 85.5	85.5	1	546	100.0	1	78	100.0
75.5 - 80.5	80.5	3	545	99.8	1	77	98.7
70.5 - 75.5	75.5	15	542	99.3	9	76	97.4
65.5 - 70.5	70.5	23	527	96.5	14	67	85.9
60.5 - 65.5	65.5	53	504	92.3	12	53	67.9
55.5 - 60.5	60.5	37	451	82.6	16	41	52.6
50.5 - 55.5	55.5	82	414	75.8	12	25	32.1
45.5 - 50.5	50.5	49	332	60.8	4	13	16.7
40.5 - 45.5	45.5	44	283	51.8	3	9	11.5
35.5 - 40.5	40.5	34	239	43.8	0	6	7.7
30.5 - 35.5	35.5	47	205	37.5	2	6	7.7
25.5 - 30.5	30.5	79	158	28.9	1	4	5.1
20.5 - 25.5	25.5	55	79	14.5	1	3	3.8
15.5 - 20.5	20.5	22	24	4.4	2	2	2.6
10.5 - 15.5	15.5	2	2	0.4			

The ogives in Figure-2 were drawn based on the above Table 4.06 and the ogives led to some interesting findings. The M.Ed. students' ogive lay to the right of the B.Ed. students' ogive over the entire range, showing that M.Ed. students scored higher consistently than B.Ed. students. Differences between the knowledge of Recent Developments in Education of the two groups were shown by the distances separating the two curves at various levels.

The M.Ed. students' Median was approximately 59, the B.Ed. students' Median 43.5; and the difference between these measurements was represented in Figure-3 by the line AB. The difference between the M.Ed. students Q_1 and B.Ed. students' Q_1 was represented by the line EF. The groups differed most at Q_1, a little less at Median and further less at Q_3. The ogives were used to determine the overlap of the two distributions. By extending the vertical line through B (the M.Ed.students' Median) upto the ogive of B.Ed. students, it became clear that approximately 82% of B.Ed. students fell below the M.Ed. students' Median. That meant only 18% of B.Ed. students excelled the median of M.Ed.students in the knowledge of Recent Developments in Education. The vertical line through A (B.Ed. students' Median) cut the M.Ed. students' ogive at approximately 10th percentile. Therefore 10% of M.Ed. students were below the Median of B.Ed. students and 90% were above that point.

The difference between the Means regarding the Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. samples was tested for significance, as seen in Table 4.07.

Table:4.07. : Testing the Significance of the Difference betweens the Means of B.Ed. and M.Ed.samples regarding Knowledge of Recent Developments through 't' Test:

Veriable Tested (1)	Groups (2)	N (3)	Mean (4)	MS.E. (5)	t (6)	Result (7)
Knowledge of Recent Developments.	B.Ed.students	546	43.58	0.67	9.77	S at 0.01 level
	M.Ed.students	78	58.73	1.40		

With regard to Table:4.07 the Mean Knowledge of Recent Developments in Education of the B.Ed. students was significantly higher at 0.01 level compared to the B.Ed. student, and this lead to the rejection of the null hypothesis, that the M.Ed. students would not have better knowledge of Recent Developments than the B.Ed. students. It was inferred that the M.Ed. students had definitely better Knowledge of Recent Developments in Education than the B.Ed. students. It was noted earlier, that the M.Ed. students, by and large, were comparable with the B.Ed. Students in the matter of Awareness of Recent Developments in Education, and the difference, if any, did not reach statistical significance even at 0.05 level. However, they had scored significantly higher in the Knowledge Test.

B:3 Utilisation of the Sources of Information relating to Recent Developments by the B.Ed. and M.Ed. students :

Their utilisation of the sources of Information was measured by the checklist on Utilisation of the Sources of Information evolved inthis research. The raw soores on Utilisation were converted as percentage scores. The frequency distributions of the scores of the B.Ed. and M.Ed. samples were given in Table: 4.08 below:

Table:4.08 : The Utilisation of the Sources of Information by B.Ed. & M.Ed. students-Frequency Distribution:

Class Intervals of the Percentage Scores (1)	Frequency of Occurance B.Ed. (2)	Frequency of Occurance M.Ed. (2)	Cumulative Frequency B.Ed. (3)	Cumulative Frequency M.Ed. (3)	Cumulative Frequency(%) B.Ed. (4)	Cumulative Frequency(%) M.Ed. (4)
71 - 75		1		78		100.0
66 - 70		0		77		98.7
61 - 65	1	1	546	77	100.0	98.4
56 - 60	2	0	545	76	99.8	97.4
51 - 55	1	0	543	76	99.5	97.4
46 - 50	4	0	542	76	99.3	97.4
41 - 45	9	1	538	76	98.5	97.4
36 - 40	17	1	529	75	96.9	96.2
31 - 35	28	5	512	74	93.8	94.9
26 - 30	53	3	484	69	88.6	88.5
21 - 25	67	1*	431	66	78.9	84.6
16.-20	124	17	364	52	66.7	66.7
11 - 15	139	14	240	35	44.0	44.9
6 - 10	100	21	101	21	18.5	26.9
1 - 5	1		1		0.2	
N =	546	78				

With respect to Utilisation of the Sources of Information in the B.Ed. Sample, the Mean, Median and Mode were 18.77, 16.83 and 12.95 respectively. The Standard Error of the Mean was 0.40. The Standard Deviation was 9.45 and its Standard Error was 0.29. The frequency distribution had a skewness of 0.616 and the scores were massed at the low end of the scale and were spread out gradually towards the high end. Its Kustosis was 0.256 and was slightly leptokustic.

In the M.Ed. sample, regarding utilisation of the Sources of Information, the Mean, Median and Mode were 19.12, 16.83 and 8.25 respectively. The standard Error of the Mean was 1.29. The Standard Deviation was 11.42 and its Standard Error was 0.91. The frequency distribution was having 0.602 skewness — strong positive skewness and the scores were massed at the low end of the scale and spreaded out gradually towards the high end. Its Kurtosis being, 0.250, it was slighly leptokurtic.

It was inferred that the student-teachers in the colleges of Education made extremely limited Utilisation of the ten Sources of Information relating to Recent Developments in Education judging by the low Means of the B.Ed. and M.Ed. samples in this respect.

A comparative study of the Utilisation of the Sources OF Information by B.Ed. and M.Ed. Students:

In this part of the study, (i) the B.Ed. and M.Ed. students were classified into certain categories based on the percentage of their utilisation of the sources. (ii) ogives were prepared and (iii) 't' test was applied to test significance of the difference between the two Means for the purpose of Comparing the two groups.

Table:4.09 : Classification of B.Ed. and M.Ed.students on Utilisation of Sources of Information on Recent Developments:

S.No.	Description of the Category	Range of % Scores on Utilisation of Information Sources	Percentage of students in the Categories	
			B.Ed.	M.Ed.
(1)	(2)	(3)	(4)	(5)
1	Outstanding	76 - 100	-	
2	Very Good	61 - 75	0.18	2.56
3	Good	46 - 60	1.28	-
4	Average	36 - 45	4.76	2.56
5	Below Average	26 - 35	14.84	10.26
6	Poor	16 - 25	34.98	39.74
7	Very poor	1 - 15	43.96	44.87

The classification of students into a seven-category system as presented in Table 4.09 brought out, that a considerably large percentage of B.Ed. and M.Ed. students were below average in the Utilisation of Sources of Information regarding Recent Developments in Education. Besides there were nil B.Ed. and M.Ed. students in the top category namely Outstanding.

On the basis of Table.4.09 the ogives were prepared for showing the distribution of scores in the two samples regarding Utilisation of Sources of Information and presented in Figure-3.

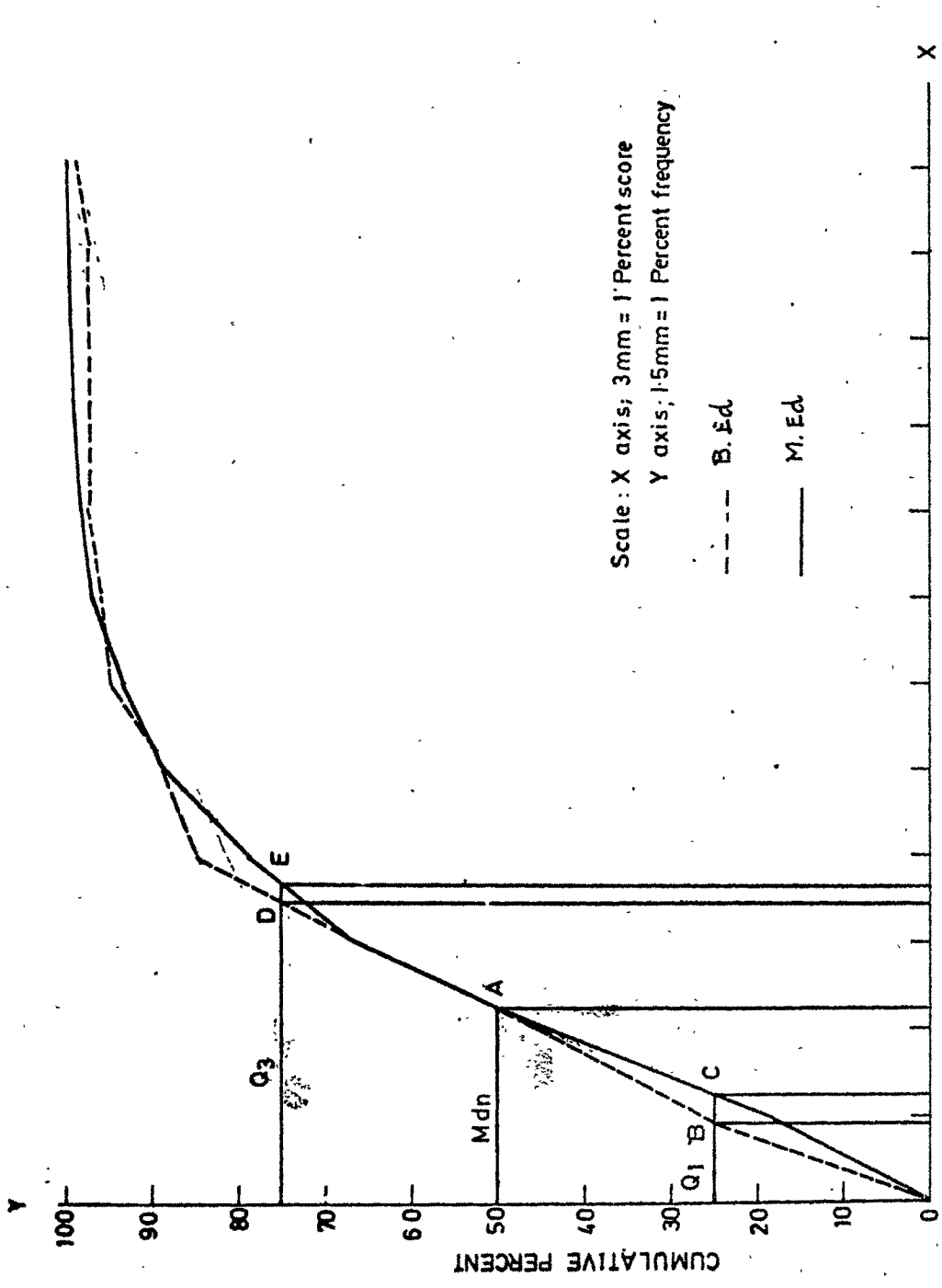

Figure 3.0 GIVES showing the Percentage Scores of B.Ed students (N=546) and M.Ed students (N = 78) on Utilisation of Sources of Information

Table:4.10 : Cumulative Frequency in Percentage of Percentage Scores of B.Ed. students (N=546) and M.Ed. Students (N=78) on UTILISATION OF SOURCES OF INFORMATION ON RECENT DEVELOPMENTS :

Real Limits	Upper Limits	B.Ed.Students			M.Ed.Students		
		f	C.F.	C.F.in %	f	C.F.	C.F.in %
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
70.6 - 75.5					1	78	100.0
65.5 - 70.5					0	77	98.7
60.5 - 65.5	65.5	1	546	100.0	1	77	98.7
55.5 - 60.5	60.5	2	545	99.8	0	76	97.4
50.5 - 55.5	55.5	1	543	99.5	0	76	97.4
45.5 - 50.5	50.5	4	542	99.3	0	76	97.4
40.5 - 45.5	45.5	9	538	98.5	1	76	97.4
35.5 - 40.5	40.5	17	529	96.9	1	75	96.2
30.5 - 35.5	35.5	28	512	93.8	5	74	94.9
25.5 - 30.5	30.5	53	484	88.6	3	69	88.5
20.5 - 25.5	25.5	67	431	78.9	14	66	84.6
15.5 - 20.5	20.5	124	364	66.7	17	52	66.7
10.5 - 15.5	15.5	139	240	44.0	14	35	44.9
5.5 - 10.5	10.5	100	101	18.5	21	21	26.9
0.5 - 5.5	5.5	1	1	0.2	0	0	0

(iv) Many interesting conclusions were drawn from Figure-3. The ogives of B.Ed. and M.Ed. students showing their percentage scores on 'Utilisation of sources of Information on Recent Developments' lay interwined. The Median of the M.Ed. students' scores and the Median of the B.Ed.students' scores were identical at 17.5(apprx.). The differences between the two frequency distributions were seen at Q_1(BC) and at Q_3 (DE); at Q_1 the B.Ed. students had approximately 13% score and M.Ed. students had approximately 10% score and at Q_3

B.Ed. students had 24% score while M.Ed. students' score was only 22.5 approximately.

Table : 4.11 : Testing the Significance of the difference between the Means of B.Ed. and M.Ed.students with respect to Utilisation of the Sources of Information through 't' test :

Variable tested (1)	Groups (2)	N (3)	Mean (4)	MS.E. (5)	t (6)	Result (7)
Utilisation of Information	B.Ed. students	546	18.77	0.40	0.19	NS
	M.Ed. students	78	19.12	1.29		

The mean utilisation of B.Ed. students was 18.77% and the mean Utilisation of the Sources by M.Ed. Students was 19.12%. Though M.Ed. students had higher mean than B.Ed. students, the difference in the means was not significant as found through the 't' test, with reference to Table 4.11. The Null hypothesis, that the M.Ed. students would not make more Utilisation of the Sources of Information as Compared to the B.Ed. students could not be rejected with the available data.

B:4 Professional Teacher Attitude of the B.Ed. and M.Ed. Students:

B:4:1 Professional Teacher Attitude of the B.Ed.Students:

The Professional Teacher Attitude of the student-teachers was one of the five educational aspects in this study and was measured by Ahluwalia's Teacher Attitude Inventory & the raw scores were converted as percentage scores.

The frequency distribution for the B.Ed. students with regard to their Professional Teacher Attitude was given in Table:4.12 below:

Table:4.12 : Professional Teacher Attitude of the B.Edstudents Frequency Distribution:

Class Intervals of the Percentage Scores. (1)	Frequency of Occurance (2)	Cumulative Frequency (3)	Cumulative Frequency (%) (4)
86 - 90	1	546	100.0
81 - 85	5	545	99.8
76 - 80	24	540	98.9
71 - 75	83	516	94.5
66 - 70	148	433	79.3
61 - 65	154	285	52.2
56 - 60	95	131	24.0
51 - 55	28	36	6.6
46 - 50	8	8	1.5
	N =546		

In the matter of Professional Teacher Attitude in the B.Ed. student-sample, the Mean, Median and Mode were 65.16, 65.11 and 65.01 respectively. The Standard Error of the Mean was 0.29. The Standard Deviation of the Scores was 6.69 and its Standard Error was 0.20. The Kurtosis being 0.258, it was deemed to be slightly lepto-kurtic. Its skewness was only 0.022 and therefore it was almost a perfectly normal curve. Since the Mean Professional Teacher Attitude of the B.Ed. students was 65.16%, it was viewed that the B.Ed. students had successfully developed their attitudinal part of the professional equipment.

B:4:2 Professional Teacher Attitude of M.Ed. Students :

The frequency distribution of scores relating to Professional Teacher Attitude of the M.Ed. students was presented below:

Table: 4.13 : Professional Teacher Attitude of the M.Ed. Students - Frequency Distribution :

Class Intervals of the percentage Scores (1)	Frequency of Occurance (2)	Cumulative Frequency (3)	Cumulative Frequency (%) (4)
89 - 91	1	78	100.0
86 - 88	0	77	98.7
83 - 85	0	77	98.7
80 - 82	0	77	98.7
77 - 79	0	77	98.7
74 - 76	6	77	98.7
71 - 73	8	71	91.0
68 - 70	10	63	80.8
65 - 67	8	53	67.9
62 - 64	19	45	57.7
59 - 61	13	26	33.3
56 - 58	5	13	16.7
53 - 55	6	8	10.3
50 - 52	2	2	2.6
	N = 78		

With respect to Table:4.13, for the M.Ed. sample, the Mean, Median and Mode were 64.38, 63.55 and 61.89 respectively. The Standard Error of the Mean was 0.77. The Standard Deviation of the attitude Scores was 6.79 and its Standard Error was 0.54. Since it had a

skewness of 0.367, it was a positively skewed frequency distribution. Its Kustosis being 0.257, it was slightly lepto-kurtic.

The Mean Professional Teacher Attitude of the M.Ed. sample was 64.38% and this was viewed as satisfactory Teacher Attitude at the post graduate stage of the course.

B:4:3 A Comparative Study of Professional Teacher Attitude of B.Ed. and M.Ed. Students :

With a view to making a graphic comparison of the two frequency distributions of Professional Tacher Attitude of B.Ed. and M.Ed. students, ogives were prepared and presented in Figure-4.

Table: 4.14 : Culumative Frequency in Percentage of Percentage Scores of B.Ed. students (N=546) and M.Ed. Students (N=78) on Professional Teacher Attitude:

Real Limits	Upper Limits	B.Ed. students			M.Ed. Students		
		f	C.F.	C.F.in %	f	C.F.	C.F.in %
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
85 - 90	90	1	546	100.0	1	78	100.0
80 - 85	85	7	545	99.8	-	77	98.7
75 - 80	80	30	538	98.5	3	77	98.7
70 - 75	75	100	508	93.0	13	74	94.9
65 - 70	70	156	408	74.7	16	61	78.2
60 - 65	65	152	252	46.2	26	45	57.7
55 - 60	60	70	100	18.3	13	19	24.4
50 - 55	55	26	30	5.5	6	6	7.7
45 - 50	50	4	4	0.7	-	-	-

(i) Several interesting conclusions were drawn from Figure-4. B.Ed. students' ogive lay to the right of M.Ed. students' ogive over the entire range almost, but for a small negligible overlap at the high

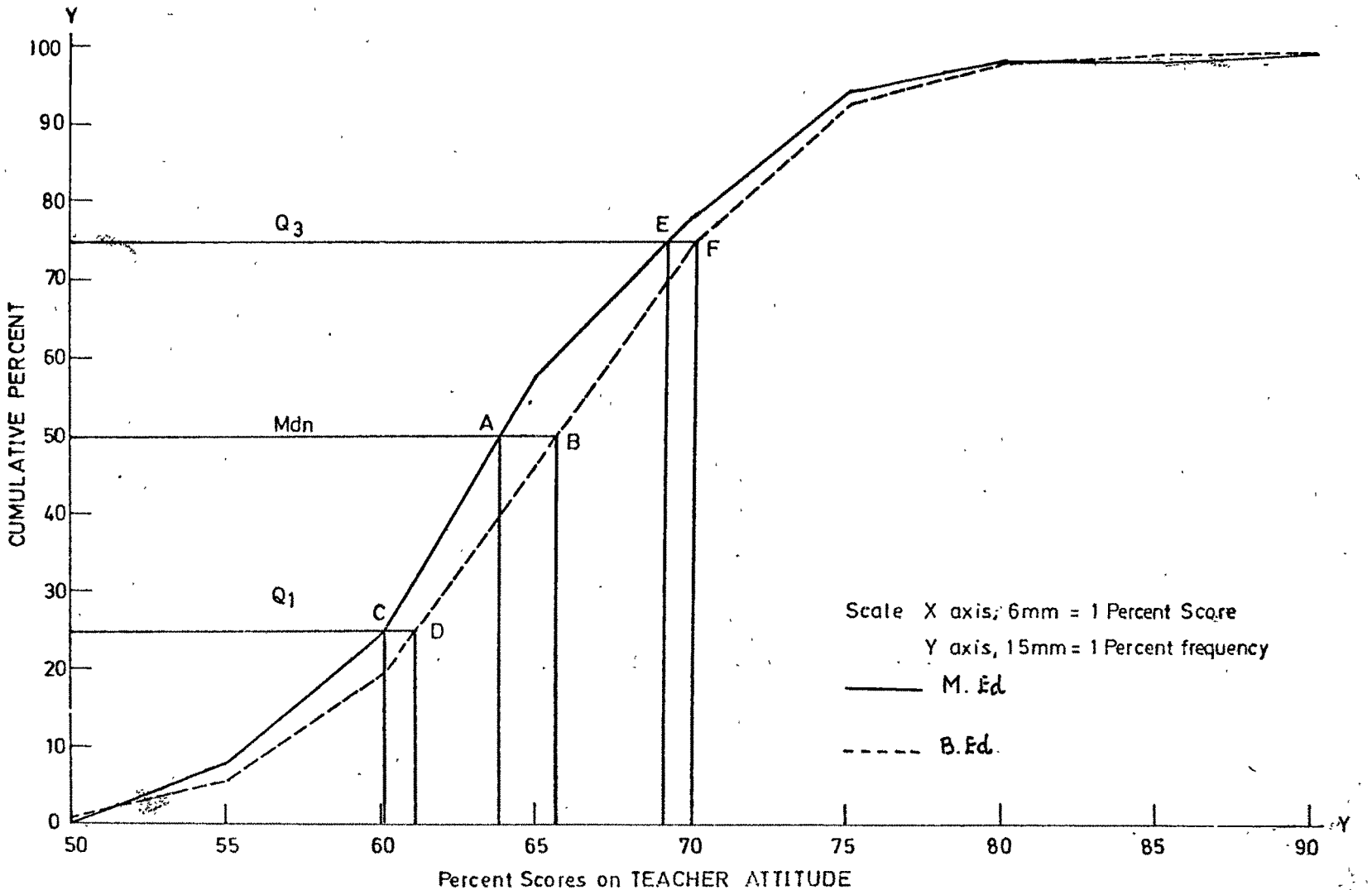

Figure 4.0 GIVES showing the Percentage Scores of B.Ed students (N=546) and M.Ed students (N=78) on TEACHER ATTITUDE

end of the distribution, showing that B.Ed. students scored consistently higher than M.Ed. students in Teacher Attitude. Differences in Teacher Attitude between the two groups was however very small as shown by the distances separating the two curves at various levels. M.Ed. students' Median was approximately 64 and the B.Ed. students' Median was 66 and the difference between these two measurements was shown by the line AB. The differences between these two Q_1's and Q_3's were shown by the line CD and EF respectively. It was clear that the groups differed less at Q_1 and Q_3 as compared to the Median. The overlap of the two distributions was next studied. By extending the vertical line through B (the B.Ed. students' ogive) upto the ogive of the M.Ed. students, it became clear that 60% of M.Ed. students fell below the Median of B.Ed. students, implying that only 40% M.Ed.students had better Teacher Attitude than the Median of the B.Ed. students. Next the vertical line through A cuts the ogive of the B.Ed. students at approximately 40th percentile. Therefore 40% of B.Ed. students had fallen lower than the Median of M.Ed. students, and 60% of them had higher Teacher Attitude than the Median of M.Ed. students.

Another method of comparing the performance of the two groups, namely 't' test was applied to test the null hypothesis that the M.Ed. student-group would not have higher Professional Teacher Attitude than the B.Ed. students.

Table:4.15 : Testing the Significance of the Difference between the Means of B.Ed. and M.Ed. samples in Professional Tacher Attitude through 't' test :

Variable tested (1)	Groups (2)	N (3)	Mean (4)	S.E.M. (5)	t (6)	Result (7)
Teacher attitude	B.Ed. students	546	65.16	0.29	0.95	NS
	M.Ed. students	78	64.38	0.77		

As presented in Table 4.15 eventhough the B.Ed. students had a very slightly higher Mean Professional Teacher Attitude than the M.Ed. students, there was no statistical significance to this difference. In the earlier comparative study, using the ogives, it was observed that the curve representing the B.Ed. students lay to the right of the curve of M.Ed. students and that the distance between the two curves was very small. The difference between the two Samples at Median point was only 2% and it became much less Q_1 and Q_3. Therefore, it was interpreted that there was no significant difference in the central tendency of the two samples in the matter of Professional Teacher Attitude.

The inference was that the absence of a significant difference between the B.Ed. and M.Ed. students could be explained by saying that the M.Ed. students being dominantly an inservice group of students were influenced, by many other variables such as organisational climate of their schools, Leadership Behaviour of the Headmaster, and Teacher Morale besides the impact of the M.Ed. course on their Professional Teacher Attitude. Perhaps their Attitude was not significantly higher than the B.Ed.students' Attitude because of such factors. The research hypothesis that they would have higher Professional Teacher Attitude was not borne out

by the data on hand.

B:5 Inference from the Comparative Study of the Performance of B.Ed. and M.Ed. Students on the Four Educational Variables:

The M.Ed. sample had a slight advantage over the B.Ed. sample regarding the Awareness of Recent Developments in Education and this was not borne out by the 't' test. Both the samples made more or less similar pattern of Utilisation of Sources of Information on Recent Developments and there was no significant difference between them. In the Matter of Professional Teacher Attitude, the B.Ed. sample had a slight advantage over the M.Ed. sample but this was not reflected in terms of statistical significance in the 't' test.

The difference between the two groups was marked regarding their Knowledge of Recent Developments in Education, and as was hypothesised, the advantage was with the M.Ed. group. It was inferred, that the M.Ed. group with comparable Awareness of Recent Developments and Utilisation of Sources of Information (like the B.Ed. group) had shown distinctly higher Knowledge of Recent Developments in Education.

B.6 THE GRADE POINT AVERAGE (GPA):

The Grade Point Average was obtained by averaging the Grade Points taken by each student-teacher in the Theory Examinations of the University. The frequency distributions of the GPA of the B.Ed. and M.Ed. students were given in one and the same Table for the sake of economy in presentation and they were not meant to be compared, since GPA's of the two groups were based on different Examinations.

Table:4.16 : Frequency Distributions of Grade Point Average of the B.Ed. and M.Ed. Students:::

Description (1)	GPA (2)	Frequency B.Ed. (3)	Frequency M.Ed. (3)	Cumulative Frequency B.Ed. (4)	Cumulative Frequency M.Ed. (4)	Cumulative Frequency (%) B.Ed. (5)	Cumulative Frequency (%) M.Ed. (5)
	6		4		78		100.0
	5	79	45	546	74	100.0	94.9
	4	317	22	467	29	85.5	37.2
	3	144	7	150	7	27.5	9.0
	2	6		6		1.1	
		N=546	78				

In a seven point Grade System of 0,1,2,3,4,5 and 6, the Mean, Median and the Modefor the B.Ed. sample were 3.86, 4.00 and 4.00 respectively. The Standard Error of the Mean was 0.03. The Standard Deviation was 0.66 and its Standard Error was 0.02. The Skewness of the distribution was -0.636. Its Kustosis being 0.250, it was slightly leptokurtic. Judged by the GPA, the B.Ed.Students should have done a satisfactory performance in the University Examinations in the Theory subjects.

In the M.Ed.sample, the Mean, Median and Mode regarding GPA were 4.62, 5.00 and 5.00 respectively. The Standard Error of the Mean was 0.08. The Standard Deviation was 0.72 and its Standard Error was 0.06. The frequency distribution had a skewness of -1.708. The Kurtosis being 0.500, it was platykurtic. Judged by the GPA, the M.Ed. students should have done a very good performance in the Theory Examinations held by the University.

SECTION : 2

(C) The Effect of Institutional and Biographical Variables on the B.Ed. and M.Ed. Students' Awareness and Knowledge of Recent Developments in Education:

C:1 THE MODE OF ANALYSIS :

(1) Based on the two institutional variables and nine biographical variables, B.Ed. students were classified into 12 pairs of groups and 1 triplete group and the performance of these groups with regard to Awareness and Knowledge of Recent Developments in Education was compared. In this part of the research, the chi-square Test, the F test, the Critical Ratio Test, and Fisher and Behren's d Test were employed for analysing the data.

(2) The Chi-square test sought to test the independence of two attributes in contingency tables and compared each one of the institutional and biographical variable with each one of the two criterion educational variables. The null hypothesis of independence was rejected in all cases, where the Chi-square was found significant atleast at 5 percent level. For the sake of convenience, all the Chi-square tests relating to one criterion educational variable were presented in a single table giving particulars on the Institutional/biographical variable under comparison, the observed frequency of scores in two/three categories on the educational variable, the total students, the Chi-square obtained, the degrees of freedom and the probability levels for significance of the result secured.

(3) The F test sought to test the homogeneity of variances of groups in their performance on the criterion

educational variable. The groups of students were made on the basis of dichotomous institutional variables and dichotomous/trichotomous biographical variables of students. The F test was set up against the null hypothesis that there would not be difference in the variances of the given groups in the population. If the calculated F Ratio was larger than the Table values of F at 5% or 1% level, then the deviation was held significant and the null hypothesis was rejected. For the sake of convenience, all the F tests relating to a criterion educational variable were presented in a single table, giving particulars regarding the student-groups, total number in each group, Standard Deviation, Variance. Table Value of F at 5% and 1%, the calculated F ratio and the Level of significance of the obtained result. The F test was thus used for reporting on the homogeneity-variability of performance on criterion educational variable of different student groups.

(4) The Critical Ratio test was applied to test the significance of the difference between two Means on performance in criterion educational variable. The critical Ratio Test always assumed that there was no significant difference in the variances of the given groups in the population. The critical Ratio test was applied in only such cases, wherein F test, as applied earlier, had shown that the F Ratio was not significant to suggest the Lack of homogeneity in the scores on the criterion educational variable. For the sake of ease of presentation, all the critical Ratio tests applicable to B.Ed./M.Ed. sample in connection with one criterion educational variable were presented in a single table, giving

particular on the student-groups compared, the total students, the Mean, the Standard Error of the Mean, the critical Ratio and the result with reference to the population at 1 or 5% level.

(5) In all such cases, wherein the F test for testing the homogeneity of the variances of groups in performance on the cirterion educational variable brought out that the F Ratio was significant either at 1% or 5% level suggesting heteto-geneity of variances, the estimates of variances could not be pooled and the usual test of significance called critical Ratio test or t test could not be applied. In all such cases, Fisher Behren's d test was used. The procedure adopted was as follows:

Tan θ was found from the Ratio of the Standard Errors of Mean; $Mean_1$; and $Mean_2$. By a reference to Table XXXII of Fisher and Yates' Statiscal Tables (Sixth Edition) for Biological, Agricultural and Medical Research' θ value was obtained. For the given value of θ, n_1-1 and n_2-1 degrees of freedom, the Table value for d at 5% or 1% level was obtained by referring to P.V. Sukhatme's Table for Significance of Difference between two Means in Table VI of Fisher and Yates. If the difference between two Means (M_1-M_2) exceeded $d\sqrt{S.E^2M_1\ S.E^2M_2}$, called critical value, it was held, that the difference between the Means was significant at 1% or 5% level as the case might be.

(6) For the sake of convenience, all the Fisher and Behren's d tests relating to B.Ed/M.Ed student sample on the performance in each criterion educational variable were placed in a

single table, giving particulars on total students, Mean Standard Error of the Mean, tan θ, θ, d Table value, critical value calculated and the significance of the results.

(7) The rationale explained here was applied with reference to B.Ed and M.Ed student samples on the two criterion educational variables, viz. Awareness and Knowledge of Recent Developments in Education.

C:2 Comparison of Institutional/Biographical variables of the B.Ed. Students and their Awareness of Recent Developments:

Awareness of the Recent Developments in Education of the B.Ed. students was whether independent of their Institutional and biographical variables was tested by using the Chi-square as presented below in Table:4.17.

Table:4.17 : The Chi-Square Test of Independence of Institutional/Biographical Variables and Awareness of Recent Developments of the B.Ed. Students :

Sr. No.	Institutional/Biographical variables	Awareness Percent Scores 71-100 High	41-70 Moderate	11-40 Low	Total Students	X^2	df	P
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	Urban College Students	79	293	68	440	10.59		
	Rural College Students	9	69	28	106			
	Total	88	362	96	546	10.59	2	0.01
2.	Government College Students	51	227	61	339			
	Non-Government College Students.	37	135	35	207			
	Total	88	362	96	546	0.87	2	0.50< P <0.70

Sr. No.	Institutional/ Biographical Variables	Awareness-Percent Scores			Total students	χ^2	df	P
		71-100 High	41-70 Moderate	11-40 Low				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3	Men students	25	145	54	224			
	Women students	63	215	44	322			
	Total	88	360	98	546	13.89	2	$P < 0.01$
4	Below 35 yeras of age	79	340	93	512			
	Above 35 years of age	10	20	4	34			
	Total	89	360	97	546	4.85	2	$0.05 < P < 0.10$
5	Graduates	60	280	77	417			
	Post-Graduates	28	82	19	129			
	Total	88	362	96	546	4.26	2	$0.10 < P < 0.20$
6	Science Degree-holders	41	231	69	341			
	Arts Degree-holders	47	131	27	205			
	Total	88	362	96	546	13.37	2	$P < 0.01$
7	Students with independent status	6	24	4	34			
	Students with dependent status	82	338	92	512			
	Total	88	362	96	546	0.86	2	$0.50 < P < 0.70$
8	Students of High SES	20	81	15	116			
	Students of Middle SES	40	170	46	256			
	Students of Low SES	28	111	35	174			
	Total	88	362	96	546	2.61	4	$0.50 < P < 0.70$
9.	Getting financial assistance	22	110	35	167			
	Not getting financial assistance	67	253	59	379			
	Total	89	363	94	546	3.41	2	$0.10 < P < 0.20$

Sr. No.	Institutional/ Biographical Variables	Awareness Percent Scores 71-100 High	41-70 Moderate	11-40 Low	Total Students	X^2	df	P
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10	More than 12 years experience	6	13	2	21			
	Less than 12 years experience	19	80	19	118			
	Total	25	93	21	139	1.72	2	$0.30<P<0.50$
11	More than 12 years experience	6	13	2	21			
	Nil Teaching experience	63	269	75	407			
	Total	69	282	77	428	3.04	2	$0.20<P<0.30$
12	With Teaching experience	25	93	21	139			
	Without Teaching experience	63	269	75	407			
	Total	88	362	96	546	1.06	2	$0.50<P<0.70$
13	First Class degree-holders	21	100	25	146			
	Lower class degree-holders	66	263	71	400			
	Total	87	363	96	546	0.45	2	$0.80<P<0.90$

As shown in Table.4.17 in the B.Ed. sample, only in three out of thirteen cases, the Chi-square was found to be significant to warrant the rejection of the null hypothesis of independence of attributes on the Awareness of Recent Developments. The Institutional variables, the location of the college in urban or rural area and the two biographical variables namely sex and the major field of specialisation of B.Ed. students, either Science or Arts were found to be related to their Awareness of Recent Developments in Education.

Table 4.18 : TESTING FOR HOMOGENEITY OF VARIANCES OF B.Ed STUDENT GROUPS IN THEIR AWARENESS OF RECENT DEVELOPMENTS, USING F RATIO :

Sr. No.	The Groups Compared	N	SD	SD^2	F_e	F Ratio	Level of significance
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1a	Students of urban colleges	440	15.43	238.08	1.31		
1b	Students of Rural Colleges	106	15.00	225.00	1.47	1.05	NS
2a	Students of Government Colleges	339	15.79	249.32	1.25		
2b	Students of Non-Government Colleges	207	15.15	229.52	1.38	1.08	NS
3a	Men Students	224	15.49	239.94	1.24		
3b	Women Students	322	14.44	208.51	1.35	1.15	NS
4a	Students, below 35 years of age	512	15.49	239.94	1.47		
4b	Students, above 35 years of age	34	17.16	294.47	1.71	1.26	NS
5a	Students who were graduate	417	15.42	237.78	1.26		
5b	Students, who were post-graduates	129	15.87	251.86	1.39	1.06	NS
6a	Science Degree holders	341	14.99	224.70	1.25		
6b	Arts Degree holders	205	16.18	261.79	1.34	1.17	NS
7a	Students with independent status	34	16.16	261.15	1.47		
7b	Students with dependent status	512	15.51	240.56	1.71	1.12	NS
8a	Students with High SES	116	14.75	217.56	1.32		
8b	Students with Middle SES	256	15.23	231.95	1.48	1.06	NS
9a	Students with High SES	116	14.75	217.56	1.34		
9b	Students with Low SES	174	16.40	268.96	1.52	1.23	NS
10a	Students with Middle SES	256	15.23	231.95	1.26		
10b	Students with Low SES	174	16.40	268.96	1.39	1.16	NS
11a	Students getting financial assistance	167	15.56	242.11	1.26		
11b	Students not getting financial assistance	379	15.44	238.39	1.36	1.02	NS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12a	With more than 12 years experience	21	17.00	289.00	1.67		
12b	With less than 12 years experience	118	14.35	205.92	2.01	1.46	NS
13a	With more than 12 years experience	21	17.00	289.00	1.60		
13b	With no teaching experience	407	15.79	249.32	1.92	1.21	NS
14a	Students, having teaching experience	139	14.80	219.04	1.28		
14b	Students, not having teaching experience	407	15.79	249.32	1.41	1.13	NS
15a	First class degree holders	146	15.12	228.61	1.26		
15b	Other class degree holders	400	15.57	242.42	1.39	1.06	NS

NOTE : While denoting F_e values, 5% level was shown above and 1% level was shown below.

As seen in Table 4.18, while comparing the variances of B.Ed student groups on Awareness of Recent Developments in Education, using the F Ratio, in all the fifteen cases, there were no significant differences in the variances. Therefore the null hypothesis that there was no significant difference in the variances of the groups in the population was accepted with regard to Awareness of Recent Developments in Education

Table 4.19 : Testing the Significance of the Difference between the Means of B.Ed Student-Groups in Awareness of Recent Developments - Critical Ratio Test :

Sr. No. (1)	The Groups Compared (2)	N (3)	Mean (4)	$S.E_M$ (5)	C.R (6)	Result (7)
1a	Students of urban colleges	440	56.82	0.74		
1b	Students of rural colleges	106	50.41	1.46	3.91	S **

(1)	(2)	(3)	(4)	(5)	(6)	(7)
2a	Students of government colleges	339	55.18	0.86		
2b	Students of non-government colleges	207	56.22	1.05	0.76	NS
3a	Men Students	224	51.53	1.03		
3b	Women Students	322	58.30	0.80	5.21	S **
4a	Students, below 35 years of age	512	55.34	0.68		
4b	Students, above 35 years of age	34	59.32	2.94	1.32	NS
5a	Students who were graduates	417	54.95	0.76		
5b	Students who were post-graduate	129	57.52	1.40	1.62	NS
6a	Science Degree holders	341	54.21	0.81		
6b	Arts degree holders	205	58.04	1.13	2.76	S **
7a	Students with independent status	34	59.03	2.77		
7b	Students with dependent status	512	55.34	0.69	1.29	NS
8a	Students with High SES	116	57.48	1.37		
8b	Students with Middle SES	256	55.73	0.95	1.05	NS
9a	Students with High SES	116	57.48	1.37		
9b	Students with low SES	174	54.01	1.24	1.88	S *
10a	Students with Middle SES	256	55.73	0.95		
10b	Students with Low SES	174	54.01	1.24	1.10	NS
11a	Students getting financial assistance	167	53.82	1.20		
11b	Students not getting financial assistance	379	56.48	0.79	1.85	S *
12a	With more than 12 years teaching experience	21	59.57	0.85		
12b	With less than 12 years teaching experience	118	56.86	1.32	1.73	S *
13a	With more than 12 years teaching experience	29	59.57	0.85		
13b	With no teaching experience	407	54.03	0.78	4.82	S **
14a	Students, having teaching experience	139	57.08	1.26		
14b	Students not having teaching experience	407	54.03	0.78	2.06	S *
15a	First Class degree holders	146	55.91	1.25		
15b	Other class degree holders	400	55.35	0.78	0.38	NS

In Table:4.19 out of fifteen cases, only in eight cases the difference between the Means of B.Ed student-groups with regard to Awareness of Recent Developments was significant, as found though the critical Ratio test. Hence in the other 7 cases, the null hypothesis of no significant difference between the Means could not be rejected with the available data. The following null hypotheses were rejected:

(i) The Awareness of Urban College students would not be higher than the Rural College students (one tail test; $P<0.01$).

(ii) There would not be a significant difference between the Awareness of men and women students (two-tail test $P<0.01$).

(iii) Students of high SES than students of low SES would not have better Awareness (one-tail test; $P<0.05$).

(iv) More experienced students would not have higher Awareness than those with less than 12 years of experience (one-tail test; $P<0.05$) and those inexperienced (one-tail test $P<0.01$). Those with teaching experience would not have higher Awareness than those without experience(one-tail test;$P<0.05$).

Some of the findings based on Table:4.19 were as follows:

(i) B.Ed students of Urban College had higher Mean Awareness of Recent Developments than their Rural Counterparts.

(ii) Women students showed advantage over men students.

(iii) Arts Degree holders excelled Science degree holders.

(iv) Students, with Middle SES fared better than those with low SES.

(v) Students, not receiving any financial assistance performed better than those receiving assistance.

(vi) Between the three groups of students; (a) with more than 12 years experience, (b) with less teaching experience, and (c) no teaching experience, the first group had the highest mean Awareness of Recent Developments and was followed by the other two groups in the order mentioned.

Discussion :

(1) While comparing the 11 independent variables, with the Awareness of Recent Developments in Education (ARDE) of the B.Ed. students, it was found that women students had significantly better Awareness of Recent Developments in Education than the men.

(2) The Arts degree-holders had higher ARDE than the Science-degree holders among the B.Ed. students.

(3) Those students who had teaching experience had better ARDE than those with nil teaching experience. Those with more than 12 years teaching experience had higher ARDE than those with less than 12 year teaching experience and those with nil teaching experience.

(4) Those students with high SES had better ARDE than those with low SES.

(5) The B.Ed. students of urban colleges of Education had higher ARDE than the students of the colleges located in rural areas. Location of the college of Education in urban area was meaningfully contributing to the development of ARDE of the B.Ed. students.

(6) The B.Ed. students who were not in receipt of financial assistance in the form of scholarship/stipend had distinctly higher ARDE where compared with those in receipt of such

assistance. It was learnt, that financial assistance was provided for the educationally and socio-economically backward students in Tamil Nadu, and that could explain the difference in ARDE between the two groups of students.

(7) Other variables such as (i) the type of college management, (ii) Age; (iii) Level of general education (iv) Personal Status; (v) class taken in the degree did not bring about differences in the Awareness of Recent Developments in Education of the B.Ed. students.

C:3 Comparision of Institutional/Biographical Variables of the M.Ed. students and their Awareness of Recent Developments:

Whether the M.Ed. students' Awareness of Recent Developments was independent of the effect of institutional and biographical variables was subjected to Chi-square test and presented in Table:4.20.

Table:4.20: The Chi-Square Test of Independence of Institutional/ Biographical Variables and Awareness of Recent Developments of the M.Ed. students :

Sr. No.	Institutional/ Biographical variables	Awareness Percent Scores 71-100 High	51-70 Moderate	16-50 Low	Total Students.	χ^2	CR	P
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Urban College Students	13	29	11	53			
	Rural College Students	3	11	11	25			
	Total	16	40	22	78	4.93	2	$0.05 < P < 0.10$
2	Government College Students.	10	23	8	41			
	Non-government College Students.	6	17	14	37			
	Total	16	40	22	78	3.36	2	$0.10 < P < 0.20$
3	Men Students	11	27	14	52			
	Women Students	4	13	9	26			
	Total	15	40	23	78	0.66	2	$0.70 < P < 0.80$

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4	Below 25 years of age	3	16	13	32	0		
	Above 25 years of age	13	24	9	46			
	Total	16	40	22	78	6.32	2	0.02<P<0.05
5	Graduates	8	24	14	46			
	Post-Graduates	8	16	8	32			
	Total	16	40	22	78	0.75	2	0.50<P<0.70
6	Science degree-holders	7	24	16	47			
	Arts degree-holders	9	16	6	31			
	Total	16	40	22	78	3.24	2	0.10<P<0.20
7	Students with independent status	13	30	13	56			
	Students with dependent status	3	11	8	22			
	Total	16	41	21	78	1.78	2	0.30<P<0.50
8	Students of High SES	14	24	12	50			
	Students of Middle SES	1	13	6	20			
	Students of Low SES	1	3	4	8			
	Total	16	40	22	78	6.79	4	0.10<P<0.20
9	Getting financial assistance	4	9	3	16			
	Not getting financial assistance	12	31	19	62			
	Total	16	40	22	78	0.93	2	0.50<P<0.70
10	More than 12 years experiende	3	14	6	23			
	Less than 12 years experience	11	20	7	38			
	Total	14	34	13	61	2.18	2	0.30<P<0.50

As found in Table 4.20 with regard to the M.Ed sample, only the biographical variable of age was related significantly with their Awareness of Recent Developments in Education. In all other cases, the null hypothesis of independence of two attributes could not be rejected with the available data.

Table 4.21 : TESTING FOR HOMOGENEITY OF VARIANCES OF M.Ed STUDENT GROUPS IN THEIR AWARENESS OF RECENT DEVELOPMENTS, USING RATIO :

Sr. No.	The Student-Groups Compared	N	SD	SD^2	F_e	F Ratio	Level of significance
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1a	Students of Urban colleges	53	14.95	223.50	1.73		
1b	Students of Rural Colleges	25	19.02	361.76	2.17	1.65	NS
2a	Students of Government colleges	41	19.00	361.00	1.72		
2b	Students of Non-government colleges	37	14.69	215.80	2.17	1.67	NS
3a	Men Students	52	15.59	243.05	1.73		
3b	Women Students	26	16.81	282.58	2.17	1.19	NS
4a	Students, below 35 years of age	32	13-74	188.79	1.76		
4b	Students, above 35 years of age	46	16.54	273.57	2.25	1.44	NS
5a	Students who were graduates	46	16.72	279.56	1.71		
5b	Students who were post-graduates	32	16.71	279.22	2.14	1.01	NS
6a	Science degree holders	47	15.96	254.72	1.77		
6b	Arts Degree holders	31	15.67	245.55	2.26	1.03	NS
7a	Students with independent status	56	15.70	246.49	1.92		
7b	Students with dependent status	22	11.07	122.54	2.57	1.95	S*
8a	Students with High SES	50	15.40	237.16	1.80		
8b	Students with Middle SES	20	15.88	252.17	2.30	1.09	NS
9a	Students with High SES	50	15.40	237.16	3.32		
9b	Students with Low SES	8	13.74	188.79	5.85	1.12	NS
10a	Students with Middle SES	20	15.88	252.17	3.45		
10b	Students with Low SES	8	13.74	188.79	6.16	1.23	NS
11a	Students getting financial assistance	16	16.37	267.98	1.84		
11b	Students not getting financial assistance	62	16.33	266.67	2.36	1.06	NS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
12a	Students with more than 12 years experience	38	17.06	291.04	1.94		
12b	Students with less than 12 years experience	23	14.53	211.12	2.61	1.35	NS

NOTE : While denoting F_2 values, 5% level was shown above and 1% level was shown below.

While testing for homogeneity of variances of M.Ed. student-groups in their Awareness of Recent Developments, using the F Ratio, it was found in Table:4.21 that in eleven out of twelve cases the null hypothesis of no significant difference in the variances had to be accepted. Only in one case the F Ratio was significant. M.Ed. students with independent status had higher variance in their Awareness [illegible] when compared with students of dependent status. M.Ed students with independent status, in most cases happened to be serving teachers doing their M.Ed in an evening college as part-time course. In a majority of cases they could be definitely more experienced in teaching. Therefore students with independent status were truly more varied and the variety of their background and personal characteristics could have contributed to their heterogeneity of Awareness of Recent Developments.

Table: 4.22: Testing the Significance of the Difference between the Means of M.Ed. student Groups in Awareness of Recent Developments, Critical Ratio Test :

Sr. No. (1)	The Groups compared (2)	N (3)	Mean (4)	$S.E_M$ (5)	C.R. (6)	Result (7)
1a	Students of Urban Colleges	53	62.28	2.05		
1b	Students of Rural Colleges	25	51.28	3.88	2.51	S **
2a	Students of Government College	41	60.68	2.97		
2b	Students of Non-government colleges	37	56.62	2.42	1.06	NS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
3a	Men Students	52	57.71	2.16		
3b	Women Students	26	60.81	3.36	0.78	NS
4a	Students below 35 years of age	32	54.53	2.43		
4b	Students above 35 years of age	46	61.70	2.44	2.08	S *
5a	Students, who were graduates	46	57.33	2.47		
5b	Students who were post graduates	32	60.50	2.96	0.82	NS
6a	Science degree holders	47	57.09	2.33		
6b	Arts Degree holders	31	61.29	2.81	1.15	NS
7a	Students with High SES	50	62.02	2.18		
7b	Students with Middle SES	20	53.60	3.64	1.99	S *
8a	Students with High SES	50	62.02	2.18		
8b	Students with Low SES	8	51.25	5.18	1.92	S *
9a	Students with Middle SES	20	53.60	3.64		
9b	Students with Low SES	8	51.25	5.18	0.37	NS
10a	Students getting financial assistance	16	60.81	4.23		
10b	Students not getting financial assistance	62	58.23	2.07	0.55	NS
11a	With more than 12 years experience	38	62.89	2.77		
11b	With less than 12 years experience	23	57.83	3.03	1.23	NS

In Table 4.22, out of 11 cases, only in four cases, the difference between the Means was significant to warrant the rejection of the null hypothesis and in 7 other cases the null hypothesis of no difference could not be rejected. The following null hypotheses were rejected :

(i) Awareness of students of urban colleges would not be higher than that of the rural college students (one tailed test; $P < 0.01$).

(ii) There would not be significant difference between the Awareness of students below 35 and above 35 years (two-tailed

test; P<0.05).

(iii) Students with high SES would not have higher Awareness of Recent Developments in Education compared to students with middle SES (one-tailed test;(p<0.05).

(iv) Students with high SES would not have higher Awareness of Recent Developments in Education compared to students with low SES (one-tailed test; P< 0.05).

Some of the findings based on Table :4.22 were as follows:

(i) The older age group of students had higher Awareness than the younger age-group.

(ii) M.Ed. Students of urban colleges had higher Mean Awareness of Recent Developments in Education than those of rural colleges.

(iii) Students of High SES had higher Awareness of Recent Developments in Education than students of middle and low SES.

Table:4.23 : Testing the Significance of the Difference between Means in Awareness of Recent Developments in Education of the M.Ed. Student Groups - Fisher Behren's d test:

S. No. (1)	M.Ed. Student Groups (2)	N (3)	Mean (4)	S.E.M. (5)	Tanθ (6)	θ (7)	d Table value* (8)	Critical value (9)	Result (10)
1	Independent Status	56	60.59	2.10					
2	Dependent Status	22	54.41	2.42	0.8678	40°54'	2,056	6.5877	NS

* 5 percent level.

Earlier it was mentioned, that M.Ed. students of independent status had significantly larger variance in their Awareness of Recent

Developments in Education, compared to students of dependent status. Table 4.23 had shown that the difference between the Means of these student-groups was not significant.

Discussion:

(1) In a study of the impact of independent variables on the Awareness of Recent Developments in Education (ARDE) of the M.Ed. sample, it was found that Age was an influential variable Those who were above 35 years of age had better Awareness of Recent Developments compared to those who were below 35.

(2) Those with Independent Status hadheterogeneity in their Awareness of Recent Developments compared to others of Dependent Status. Invariably those who were independent were in the older age group.

(3) Socio-economic status was another important veriable; those with high SES had better Awareness of Recent Developments than those with middle and low SES. M.Ed. students of urban colleges of Education had higher Awareness of Recent Developments than those from rural colleges.

(4) Other variables such as the Type of college management, the Sex of the Students, level of general education, Major Subject of study, and Financial assistance for Studies were not found to make any significant impact on the Awareness of Recent Developments of the M.Ed. students.

C:4 Comparison of Institutional/Biographical variables of the B.Ed. students and their Knowledge of Recent Developments:

Whether the B.Ed. students' Knowledge of Recent Developments in Education was independent of their institutional and biographical variables was subjected to Chi-square test.

Table:4.24: The Chi-Square Test of Independence of Institutional/Biographical Variables and Knowledge of Recent Developments in Education of the B.Ed. Students:

S. No.	Institutional/Biographical Variables	Knowledge of Recent Developments-Percent Score. 61-90 High	41-60 Moderate	11-40 Low	Total students	χ^2	d.f	P
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.	Urban College Students	92	175	173	440			
	Rural College Students	3	37	66	106			
	Total	95	212	239	546	26.84	2	P<0.01
2.	Government College Students.	64	130	145	339			
	Non-Government College Students.	30	82	95	207			
	Total	94	212	240	546	1.78	2	0.30<P<0.50
3.	Men students	42	104	78	224			
	Women Students	51	110	161	322			
	Total	93	214	239	546	12.68	2	P<0.01
4.	Below 35 years of age	86	196	230	512			
	Above 35 years of age	11	15	8	34			
	Total	97	211	238	546	7.97	2	0.01<P<0.02
5.	Graduates	60	170	187	417			
	Post-graduates	37	41	51	129			
	Total	97	211	238	546	6.03	2	0.02<P<0.05
6.	Science degree-holders	51	133	157	341			
	Arts Degree holders	42	80	83	205			
	Total	93	213	240	546	3.20	2	0.10<P<0.20
7.	Students with independents status.	11	18	5	34			
	Students with dependent status.	86	193	233	512			
	Total	97	211	238	546	13.2	2	P<0.01
8.	Students of High SES	27	38	51	116			
	Students of Middle SES	50	98	108	256			
	Total	97	211	238	546	6.52	4	0.10<P<0.20
9.	Getting financial assistance.	26	57	84	167			
	Not getting financial assistance	72	152	155	379			
	Total	98	209	239	546	3.9	2	0.10<P<0.20

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10.	More than 12 years experience	0	3	18	21			
	Less than 12 years experience	34	53	31	118			
	Total	34	56	49	139	28.09	2	P<0.01
11.	More than 12 years experience	0	3	18	21			
	Nil teaching experience	60	142	205	407			
	Total	60	145	223	428	10.39	2	P<0.01
12.	With teaching experience	37	69	33	139			
	Without teaching experience	60	142	205	407			
	Total	97	211	238	546	29.00	2	P<0.01
13.	First Class degree-holders	23	58	65	146			
	Lower Class degree-holders.	71	154	175	400			
	Total	94	212	240	546	0.30	2	0.90<P<0.95

In the B.Ed. sample, as found in Table : 4.24 the Chi-Square was significant at not less than 0.05 level in eight out of the thirteen cases, necessitating the rejection of the null hypothesis of independence of two attributes of Knowledge of Recent Developments. The institutional variable, the location of the college of Education in urban or rural areas and the biographical variables (i) Sex, (ii) Age, (iii) Level of general qualification as graduation or post-graduation, (iv) independent/ dependent status and (v) the teaching experience of B.Ed. students were significantly related to their knolwedge of Recent Developments in Education.

Table:4.25: TESTING FOR HOMOGENEITY OF VARIANCES OF B.Ed. STUDENTS GROUPS IN THEIR KNOWLEDGE OF RECENT DEVELOPMENTS USING F- RATIO:

S. No.	The Groups compared	N	SD	SD^2	F_e	F Ratio	Level of significance
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1a	Students of urban colleges.	440	16.38	267.65	1.31		
1b	Students of Rural colleges.	106	13.23	175.03	1.47	1.52	S**
2a	Students of Government Colleges	339	16.06	257.92	1.25		
2b	Students of Non-Government colleges	207	15.98	255.36	1.38	1.01	NS
3a	Men students	224	15.03	225.90	1.25		
3b	Women students	322	16.47	271.26	1.37	1.20	NS
4a	Students, below 35 years of age.	512	16.19	262.11	1.60		
4b	Students, above 35 years of age.	34	15.78	249.01	1.96	1.02	NS
5a	Students, who were graduates	417	15.67	245.55	1.26		
5b	Students, who were postgraudates	129	17.69	312.94	1.39	1.28	S*
6a	Science degree holders	341	15.73	247.43	1.25		
6b	Arts degree holders	205	16.54	273.57	1.34	1.12	NS
7a	Students with independent status	34	12.79	163.58	1.60		
7b	Students with dependent status	512	16.23	263.41	1.96	1.57	NS
8a	Students with High SES	116	20.52	421.07	1.31		
8b	Students with Middle SES	256	16.17	261.47	1.46	1.62	S**
9a	Students with High SES	116	20.52	421.07	1.33		
9a	Students with Low SES	174	15.08	227.41	1.49	1.86	S**
10a	Students with Middle SES	256	16.17	261.47	1.28		
10b	Students with Low SES	174	15.08	227.41	1.41	1.15	NS

(1) (2)	(3)	(4)	(5)	(6)	(7)	(8)
11a Students, getting financial assistance	167	15.35	235.62	1.25		
11b Students, not getting financial assistance	379	16.45	270.60	1.37	1.14	NS
12a With more than 12 years experience	21	11.63	135.26	1.90		
12b With less than 12 years experience	118	15.72	247.12	2.52	1.75	NS
13a With more than 12 years experience	21	11.63	135.26	1.86		
13b With no teaching experience.	407	16.03	256.96	2.45	1.81	NS
14a Students, having teaching experience	139	14.46	209.09	1.28		
14b Students not having teaching experience	407	16.03	256.96	1.41	1.22	NS
15a First Class degree-holders	146	16.00	256.00	1.26		
15b Other class degree-holders	400	16.15	260.82	1.39	1.01	NS

Note : While denoting F_o value, 5% level was shown above and 1% was shown below.

While comparing the variances of the Knowledge of Recent Developments in Education among the B.Ed. Student-groups, using the F Ratio, as seen in Table:4.25, in eleven out of fifteen cases the null hypothesis of no significant difference in their variances had to be accepted. The F Ratio was significant in four cases only.

(i) With regard to the knowledge of the Recent Developments in Education, B.Ed. students of urban colleges showed greater variability than students of rural Colleges of Education. There were many variables that could operate in the urban location of the college-in their very nature the urban colleges could show greater variability. Knowledge of RD was dependent on many variables.

Perhaps this was only reflected in the more homogeneous nature of knowledge of Recent Developments in Education of B.Ed. students of colleges located in rural areas. In urban colleges, some could use the Sources of Information on Recent Developments more than some others and this was bound to show its influence on their Knowledge of Recent Developments in Education.

(ii) The post-graduates among B.Ed. students showed heterogeneity in their knowledge of Recent Developments compared to students who were graduates only. The larger variance in the post-graduate sub-population could have been because of the diverse nature and characteristics of the post-graduates themselves. Some came to B.Ed. course to pursue a career of teaching while some others came to acquire a degree in a year while they were contending with others for more suitable employment. This could introduce larger variation in their efforts for being uptodate with regard to knowledge of Educational Developments.

(iii) & (iv) The socio-economic status of students had somehow influenced their knowledge of Recent Developments in Education as could be seen in the differences between the variances of the three groups (Low SES, middle SES and high SES) and the variances increased in a linear pattern; the low SES group had the least variance, the middle SES group had higher variance and the high SES group had the highest variance. The two comparisons namely high SES with middle SES, and high SES with low SES brought out statistically significant differences.

Table:4:26 : Testing the Significance of the Difference between the Means of B.Ed. Student - Groups in Knowledge of Recent Developments - Critical Ratio Test :

S.No. (1)	The Groups Compared (2)	N (3)	Mean (4)	S.E.M. (5)	C.R. (6)	Result (7)
1a	Students of Government Colleges	339	47.30	0.87		
1b	Students of Non-Government colleges.	207	42.84	1.11	3.16	S**
2a	Men Students	224	46.48	1.00		
2b	Women Students	322	41.96	0.92	3.32	S**
3a	Students, below 35 years of age	512	43.53	0.72		
3b	Students, above 35 years of age	34	50.79	2.71	2.59	S**
4a	Science degree-holders	341	43.15	0.85		
4b	Arts degree-holders	205	44.48	1.16	0.92	NS
5a	Students with independent status	34	54.32	2.19		
5b	Students with dependent status	512	43.29	0.72	4.78	S**
6a	Students with middle SES	256	44.29	1.01		
6b	Students with low SES	174	42.63	1.14	1.09	NS
7a	Students getting financial assistance.	167	42.15	1.19	tail	One-tail test
7b	Students not getting financial assistance	379	44.58	0.84	1.66	S**
8a	With more than 12 years teaching experience	21	20.76	0.58		
8b	With less than 12 years teaching experience	118	50.25	1.45	18.90	S**
9a	With more than 12 years teaching experience	21	20.76	0.58		
9b	With no teaching experience	407	41.67	0.79	21.34	S**
10a	Students, having teaching experience	139	50.75	1.23		
10b	Students, not having teaching experience	407	41.67	0.79	6.22	S**
11a	First Class degree-holders	146	43.45	1.32		
11b	Other Class degree-holders	400	43.75	0.81	0.20	NS

In table:4.26 out of 11 cases, the difference between the means, of B.Ed. Groups was significant in 8 cases, leading to the rejection of the following null hypotheses:

(i) There would not be significant difference between the Knowledge of Recent Developments of government college students and non-government college students(two-tailed test: $P<0.01$)

(ii) There would not be significant difference in Knowledge of Recent Developments between men and women students (two-tailed test: $P<0.01$).

(iii) There would not be significant difference in the knowledge of Recent Developments between students below and above 35 years of age (two-tailed test: $P<0.01$).

(iv) There would not be significant difference between knowledge of students with independent status and dependent status (two-tailed test: $P<0.01$).

(v) The average knowledge of students with teaching experience would not be higher than those without teaching experience (one tailed test: $P<0.01$).

(vi) Contrary to expectations (a) students not getting financial assistance for their studies had significantly better knowledge than those getting such help among B.Ed. students; (b) Students with less than 12 years experience had better knowledge than those having more experience; and (c) B.Ed. Students without teaching experience had significantly higher knowledge of Recent Developments, when compared to students with more than 12 years experience.

The following were the findings with respect to Table: 4.26:

(i) B.Ed. students of government colleges had better knowledge

than the non-government college students.

(ii) Men students excelled the women students.

(iii) Students above 35 years had superior knowledge than those below 35.

(iv) Students with independent stuatus were better off in knowledge than those with dependent status.

(v) Students not receiving financial assistance did better in knowledge than those receiving assistance.

(vi) Between students with no teaching experience, students with less than 12 years experience and others with more than 12 years experience, the last group had the lowest average knowledge of Recent Developments. Students with less than 12 years experience had higher knowledge than those without experience:

Table:4.27: The Significance of the Difference between Means in Knowledge of Recent Developments of B.Ed. Student-Groups Fisher Behren's d Test:

S. No. (1)	Student Group (2)	N (3)	Mean (4)	S.E.M. (5)	SD (6)	tan θ (7)	θ (8)	d Table Value (9)	Critical Value (10)	Result (11)
1	Urban College	440	45.39	0.78	16.36					
	Rural College	106	37.39	1.28	13.23	0.6094	31;18'	2.576**	3.812	S**
2	Graduates	417	43.08	0.77	15.97					
	Post Graduates	129	46.90	1.56	17.69	0.4936	26;12'	1.960*	3.4098	S*
3	High SES	116	45.33	1.91	20.52					
	Middle SES	256	44.29	1.01	16.17	0.5288	27;48'	1.960*	4.2348	NS
4	High SES	116	45.33	1.91	20.52					
	Low SES	174	42.63	1.14	15.08	0.5969	30;48'	1.960*	4.3597	NS

* 5 percent level

** 1 percent level

* As established earlier, students of urban colleges had higher variance than students ofrural colleges in the matter of knowledge of Recent Developments. Besides as seen in Table:4.27 they had significantly higher knowledge than their rural counterparts ($P<0.01$). This warranted the rejection of the null hypothesis that the knowledge of urban college students would not be higher significantly than those of the rural college students.

As found earlier, post-graduates among B.Ed. students had significantly larger variance than the graduates in their Knowledge. Table:4.27 had shown that their mean knowledge of Recent Developments was significantly higher than the graduates ($P<0.05$). This led to the rejection of the null hypothesis post-graduates would not have significantly higher knowledge of Recent Developments.

Discussion :

In this research, while studying the influence of the 11 independent variables on the B.Ed. students' knowledge of Recent Developments in Education (KRDE), the following Conclusions were drawn.

(1) B.Ed. students from urban colleges of Education were not only found to be more beterogeneous in the matter of KRDE, but were also found to be having higher knowledge of Recent Developments. It had been mentioned earlier that B.Ed. Students of urban colleges had definitely better Awareness of Recent Developments in Education. The location of the college in urban area had given them definite advantage.

(2) B.Ed. students from government-managed colleges of Education had higher Knowledge of Recent Developments compared to others from non-government colleges.

(3) B.Ed. students above 35 years were having higher Knowledge of Recent Developments in Education than those below 35. The variable of Age had not influenced the B.Ed. students' Awareness of Recent Developments in Education.

(4) Those who were independent had higher Knowledge of Recent Developments than those who were dependent on parents/ guardians. It had been observed that the independent students were by and large in the older age group.

(5) Men B.Ed. students had definitely higher knowledge of Recent Developments in Education than the Women students, whohad by far better Awareness of Recent Developments in Education.

(6) Students not getting financial essistance for their studies had not only better Knowledge of Recent Developments, than those getting assistance but also they had higher Awareness of Recent Developments in Education, as noted earlier.

(7) The post-graduates among the B.Ed. students were not only heterogenous as a group in their Knowledge of Recent Developments, but also were having higher knowledge when compared to the others who were graduates only.

(8) Teaching experience was found to exert influence on B.Ed. students' Knowledge of Recent Developments. B.Ed.students without teaching experience scored significantly higher in the knowledge test than those having teaching experience of over 12 years. B.Ed. students with less than 12 years experience had more knowledge than those with 12 years' experience. When all those who had teaching experience were taken as one group and compared with those having nil experience, the experienced group fared significantly better, as was hypothesised.

(9) Socio-economic status of the B.Ed.students had certain influence on their Knowledge of Recent Developments in Education. Those with high SES were found to be more heterogeneous in their knowledge of Recent Developments when compared separately with those of middle SES and low SES.

C:5 Comparison of Institutional/Biographical Variable of the M.Ed. Students and their Knowledge of Recent Developments:

The question, whether M.Ed. students' Knowledge of Recent Developments in Education was independent of their institutional and biographical variables was tested by the Chi-square method, and this could be referred below in Table: 4.28:

Table:4.28 : The Chi-Square Test of Independence of Institutional/ Biographical Variables and Knowledge of Recent Developments of the M.Ed. students:

S. No.	Institutional/ Biographical Variables	Knowledge Percent Scores 71-100 High	51-70 Moderate	16-50 Low	Total Students	χ^2	df	S/NS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Urban College Students	7	40	6	53			
	Rural College Students	4	14	7	25			
	Total	11	54	13	78	3.86	2	NS
2	Government College Students.	5	31	5	41			
	Non-government College	6	23	8	37			
	Total	11	54	13	78	1.77	2	NS
3	Men students	8	32	12	52			
	Women Students	3	22	1	26			
	Total	11	54	13	78	5.36	2	NS
4	Below 35 years of age	3	22	7	32			
	Above 35 years of age	8	32	6	46			
	Total	11	54	13	78	1.77	2	NS
5	Graduates	7	32	7	46			
	Post graduates	4	22	6	32			
	Total	11	54	13	78	0.24	2	NS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6	Science degree-holders	8	30	9	47			
	Arts degree-holders	3	24	4	31			
	Total	11	54	13	78	1.67	2	NS
7	Students with independent status.	7	40	9	56			
	Students with dependent status.	4	14	4	22			
	Total	11	54	13	78	0.53	2	NS
8	Students of High SES	7	37	6	50			
	Students of Middle SES	4	10	6	20			
	Students of Low SES	0	7	1	8			
	Total	11	54	13	78	6.15	2	NS
9	Getting Financial Assistance.	2	11	3	16			
	Not getting financial Assistance.	9	43	10	62			
	Total	11	54	13	78	0.09	2	NS
10	More than 12 years experience	3	16	4	23			
	Less than 12 years experience	8	24	6	38			
	Total	11	40	10	61	0.62	2	NS

As seen in Table: 4.28 in the M.Ed. sample, in the matter of Knowledge of Recent Developments the Chi-square was not significant in any case out of ten and therefore the null hypothesis of independence of the two attributes in each case was accepted as plausible.

Table:4.29: TESTING FOR HOMOGENEITY OF VARIANCES OF THE M.Ed. STUDENT GROUPS IN THEIR KNOWLEDGE OF RECENT DEVELOPMENTS, USING F RATIO:

S. No.	The Student-Groups Compared	N	SD	SD^2	F_e	F Ratio	Level of significance S/NS
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1a	Students of urban Colleges	53	11.19	125.22	1.73		
ab	Students of Rural Colleges	25	13.82	191.00	2.17	1.56	NS
2a	Students of Government Colleges	41	10.49	110.04	1.71		
2b	Students of Non-Government Colleges.	37	13.92	193.77	2.15	1.77	S*
3a	Men Students	52	15.14	229.22	1.83		
3b	Women Students	26	7.37	54.32	2.40	4.14	S**
4a	Students, below 35 years of age	32	14.36	206.21	1.76		
4b	Students, above 35 years of age	46	18.97	359.86	2.25	1.73	NS
5a	Students, who were graduates	46	9.03	81.54	1.71		
5b	Students, who were post-graduates.	32	13.65	186.32	2.14	2.31	S*
6a	Science degree holders.	47	12.25	150.06	1.71		
6b	Arts degree holders	31	12.31	151.54	2.13	1.02	NS
7a	Students with independent status.	56	12.39	153.51	1.92		
7b	Students with dependent status	22	11.85	140.42	2.51	1.06	NS
8a	Students with High SES	50	11.53	132.94	1.80		
8b	Students with Middle SES	20	15.31	234.40	2.30	1.82	S*
9a	Students with High SES	50	11.53	132.94	3.32		
9b	Students with Low SES	8	6.12	37.45	5.85	3.17	NS
10a	Students with Middle SES	20	15.31	234.40	3.45		
10b	Students with Low SES	8	6.12	37.45	6.16	5.77	0.05
11a	Students getting financial assistance.	16	9.79	95.84	2.17		
11b	Students not getting financial assistance	62	13.07	170.82	3.05	1.70	NS
12a	Students with more than 12 years experience	38	13.56	183.87	1.94		
12b	Students with less than 12 years experience	23	9.99	99.8	2.61	1.81	NS

Note : While denoting F_e values, 5%level was shown above and 1% level was shown below.

While testing for homogeneity of variances of the M.Ed. students groups in their knowledge of Recent Developments, using F Ratio, it was found in Table:4.29 in seven out of twelve cases, the null hypothesis of no significant difference in the variances had to be accepted. The F Ratio was significant in five cases.

(i) M.Ed. students of non-government colleges showed heterogeneity in their knowledge scores compared with students of government colleges.

(ii) M.Ed.men students had larger variance in their knowledge scores compared to women students.

(iii) M.Ed.students holding post-graduate degrees had greater variability and tended to be heterogeneous in their knowledge scores compared to those holding merely pass-degrees.

(iv & v) M.Ed. students with middle SES had heterogeneity in their knowledge scores compared with students of high SES on one hand and on the other hand with students of low SES.

Table:4.30: Testing the Significance of the Difference between the Means of M.Ed.student-Groups in Knowledge of Recent Developments - Critical Ratio Test:

S.No. (1)	The Groups compared (2)	N (3)	Mean (4)	S.E.M. (5)	C.R. (6)	Result (7)
1a	Students of Urban Colleges	53	59.81	1.54		
1b	Students of Rural Colleges	25	56.36	2.82	2.01	S at 0.025
2a	Students,below 35 years of age	32	56.06	2.54		
2b	Students,above 35 years of age	46	59.41	2.79	0.89	NS
3a	Science degree holders	47	58.85	1.79		
3b	Arts degree holders	31	58.42	2.17	0.15	NS
4a	Students with independent status	56	59.18	1.66		
4b	Students with dependent status	22	57.45	2.59	0.56	NS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
5a.	Students with High SES	50	59.86	1.63		
5b.	Students with Low SES	8	58.00	2.31	0.66	NS
6a.	Students getting financial assistance.	16	58.94	2.53		
6b.	Students not getting financial assistance.	62	58.61	1.66	0.11	NS
7a.	With more than 12 years experience.	38	60.05	2.2		
7b.	With less than 12 years experience.	23	58.96	2.08	0.36	NS

Table:4.30 ; out of the seven cases, only in one case the difference between the means was significant leading to the rejection of the null hypothesis that students of Urban Colleges would not have higher Knowledge of Recent Development than those of rural Colleges (one-tailed test:P 0.025). In the other six cases the null hypothesis of no difference could not be rejected with the available data.

Table:4.31 : The Significance of the Difference between Means in Knowledge of Recent Developments of M.Ed.students Groups - Fisher Behren's d Test:

S. No. (1)	M. Ed. Student Groups (2)	N (3)	Mean (4)	$S.E_M$ (5)	tanθ (6)	θ (7)	d Table value (8)	Critical value (9)	Result (10)
1	Government College	41	60.06	1.64					
	Non-Government College	37	57.16	2.29	0.7162	35°36'	1.960*	5.5207	NS
2	Men Students	52	57.02	2.10					
	Women Students	26	61.65	1.47	1.4286	55° 0'	1.960*	5.0242	NS
3	Graduates	46	58.96	1.33					
	Post-graduates	32	58.31	2.41	0.5519	28°54'	1.960*	5.3952	NS
4	High Socio-economic Status	50	59.86	1.63					
	Middle Socio-economic Stuatus	20	56.00	3.51	0.4644	24°54'	2.035*	7.8755	NS
5	Middle Socio-economic Status	20	56.00	3.51					
	Low Socio-economic status.	8	58.00	2.31	1.5195	56°36'	2.118*	8.8997	NS

* 5% level.

In Table:4.31 in all the 5 cases the difference between the Means in Knowledge of Recent Developments of M.Ed. Student-groups was not significant.

Discussion:

(1) While comparing the ten independent variables with the Knowledge of Recent Developments in Education of the M.Ed.students, it was found that urban students had significantly higher knowledge of Recent Developments in Education than the students of colleges of Education located in rural areas. It was mentioned earlier that the students of urban colleges had significantly higerh Awareness of Recent Developments in Education.

(2) M.Ed.Students of non-government colleges of Education were heterogeneous in their Knowledge of Recent Developments than the students of government colleges.

(3) The post-graduates among the M.Ed.students had larger variance in their knowledge of Recent Development while compared with the graduates. It could be that the post-graduates were a mixed lot.

(4) Men M.Ed.students lacked homogeneity in their scores on Knowledge of Recent Developments while compared to the women student-group. Sex of the Students did not have any impact on their Awareness of Recent Developments in Education.

(5) When compared with M.Ed. students of high SES and Low SES separately, the students with middle SES had significant heterogeneity in their knowledge of Recent Developments.

(6) The other biographical variables associated with the M.Ed. students such as their Personal Status, major subject of specialisation at the degree or post-graduate degree level, the receipt of financial assistance for studies and teaching experience did not affect their knowledge of Recent Developments in Education to the point of bringing differences among the M.Ed. groups based on their personal variables.

SECTION : 3

DESCRIPTIVE ANALYSIS OF AWARENESS AND KNOWLEDGE OF RECENT DEVELOPMENTS AND UTILISATION OF SOURCES OF INFORMATION AMONG B.Ed. & M.Ed. STUDENTS.

D:1 Introduction:

(1) This section of the Analysis of Data was utilised for a descriptive analysis and discussion of Awareness and Knowledge of Recent Developments in Education of the B.Ed. and the M.Ed. students and their pattern of Utilisation of the different Sources of Information relating to Recent Developments for building their awareness-knowledge. The 130 items of Recent Developments in Education classified and grouped under 12 categories were studied from the point of view of the student-teachers' awareness of them, category after category and item by item. The percentage of student-teachers at the five different levels of Awareness for each item and the weighted item-Means, figured in the analysis. Since the percentage system is the one most frequently used in discussions relating to University student performances in educational aspects, the same had been adopted here.

With a view to studying their relative awareness of the 12 categories, on the basis of weighted arithmetic mean awareness, the categories were arranged in rank order from the most-aware to the least-aware. Besides of the average percentage of student-teachers at the five points of the scale of Awareness with respect to each category and finally for the total scale was worked out.

(2) In a comparative study of the Awareness of B.Ed. and M.Ed. students, on the basis of ranking the 130 Recent Developments in terms of weighted item-Means for B.Ed. and M.Ed. groups separately the top ranking ten and bottom ten items for each group were selected and they were designated as most popular and least popular Recent Developments. The average weighted Awareness of the top and bottom ten Developments for the B.Ed. and M.Ed. samples were worked out and compared. The percentage of B.Ed. and M.Ed. students remaining at five different levels of Awareness for each one of the 12 categories was compared. So also their weighted arithmetic mean Awareness of the 12 categories was compared. Using the rank-difference method of correlation, the correlation between the two samples regarding their Awareness of the 12 categories was studied.

(3) Subsequently the descriptive analysis and discussion of the Utilisation of the Sources of Information by the student-teachers was undertaken. Category after category was taken and item-wise the utilisation of the ten Sources of Information by the student-teachers was examined. The discussion used the percentage system and reported the percentage of student-teachers utilising the Sources of Information for every one of the 130 items under Recent Developments. The Mean Utilisation of Sources of Information of the items was compared with the weighted item-Mean Awareness for seeing the relationship between Awareness of Recent Developments in Education, and Utilisation of Sources of Information relating to them. The analysis and discussion were carried out on the above lines for the B.Ed. & M.Ed. samples, one after the other.

(4) In the comparative study of Utilisation of Sources of Information by B.Ed. and M.Ed. students, the mean percentage of students using the ten Sources of Information for each one of the 12 categories as well as the aggregate average for the entire list of 130 Recent Developments were worked out and discussed. With a view to highlighting the relationship between Utilisation of Sources of Information and Awareness of Recent Developments, the average 'Mean Utilisation of Sources of Information' of the top ranking 10 items of Recent Developments in Education (based on weighted Mean Awareness of the items) was studied in relation to 'Average Weighted Mean Awareness' of those top items as well as average 'Mean Utilisation of Sources of Information' of the bottom 10 items of Recent Developments and their 'Average Weighted Mean Awareness'. It was expected that the average utilisation of Sources of Informations for the top 10 items would be high and for the bottom 10 items would be low generally and between B.Ed. and M.Ed. samples, the values associated with the latter would be higher.

(5) Lastly the Knowledge of Recent Developments in Education of the student-teachers was taken up for discussion. The facility value of both the B.Ed. and M.Ed. samples for the 69 test-items was computed and the average facility value of the objective test for each group was worked out. It was expected that the M.Ed. group would have higher facility value. Subsequently the best known and least known ten items in each sample were taken and the Average Facility Value, Mean Awareness and Mean Utilisation were worked out. It was expected that Average Facility

value, Mean Awareness and Mean Utilisation for the top ten items would be higher than similar values associated with the bottom(least Known) ten items in each sample on one hand and on the other between the two samples the values associated with the M.Ed. sample would be higher. In this part of the descriptive discussion, the triangular relationship between the three variables, namely knowledge of Recent Developments, Awareness of Recent Developments and Utilisation of the Sources of Information would be highlighted.

D:2 Awareness of Recent Developments in Education of the B.Ed. Students:

The percentage of students marking at different points of the Scale of Awareness for every item in each category under Recent Developments of Education and the weighted Item-Means were prepared and presented, and discussion on student-teachers' Awareness was steered on that basis:

D:2:1 Education and the State:

The percentage of B.Ed. students at different levels of Awareness of the items under the category, Education and the State was placed in Table:4.32.

No.	Item Statements	SCALE OF AWARENESS 0	1	2	3	4	Total	Weighted Item Mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.0	EDUCATION & THE STATE							
A	Matters of State Policy							
1.1	National Policy on Education-1968.	18	29	30	17	6	100	1.64
1.2	Education being placed in the concurrent list of the constitution, 1976	13	31	34	16	7	101	1.75

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1.3	Secular nature of education in the public schools of India.	10	19	32	25	14	100	2.14
1.4	National Structure and Pattern of Education (10+2+3).	1	3	13	36	48	101	3.29
1.5	Free and compulsory primary education.	0	2	6	30	61	99	3.48
B	National Schemes for the talented.							
1.6	NCERT's National Talent Search Scheme.	6	26	33	22	13	100	2.10
1.7	NCERT's National Rural Talent Search Scheme.	16	32	30	17	6	101	1.67
1.8	NCERT'S National Science Talent Search Scheme	6	23	30	23	18	100	2.24

As shown in Table:4.32 B.Ed. students had more than a good deal of Awareness of Free and Compulsory Primary Education and the National Structure and Pattern of Education, namely the 10+2+3. The weighted item means were 3.48 and 3.29 respectively.

Student's Awareness was more than average with regard to (i)Secular nature of education in the public schools of India; (ii) NCERT's National Talent Search Scheme; and (iii) NCERT's National Science Talent Search Scheme.

Their awareness of (i) National Policy of Education, 1968; (ii) Education being placed in the Concurrent List of the constitution, 1976 and (iii) NCERT's National Rural Talent Search Scheme was below the average.

There was none who was not aware of Free and Compulsory Primary

education. 18% of them were totally unaware of the 1968 National Policy on Education, and 16% were unaware of NCERT's National Rural Talent Search Scheme.

D:2:2 Education and the Teachers:

The Awareness of the B.Ed. students regarding the items under the category, Education and the Teachers was given in Table:4.33

Table:4.33 Percentage of B.Ed. students at different levels of Awareness of 'Education and the Teachers' and weighted Arithemetic Item Means:

No.	ITEM STATEMENTS	SCALE OF AWARENESS 0	1	2	3	4	Total	Weighted Item Mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2.0	EDUCATION AND THE TEACHERS							
A	Teacher Development:							
2.01	In-service education and training of teachers.	1	7	17	33	42	100	3.08
2.02	Summer Institutes for teachers.	3	11	23	35	28	100	2.74
2.03	Action research by teachers.	8	21	28	23	21	101	2.30
2.04	National Programme of seminar readings for teachers and teacher educators by NCERT	9	27	30	22	12	100	2.01
2.05	Experimental and developmental projects by teachers supported with the NCERT funds.	21	32	29	13	5	100	1.46
2.06	Evaluation of Teaching	4	14	25	31	26	100	2.61
2.07	Panel Inspection of Schools in Tamil Nadu							
B.	Professionalism of Teachers.	14	20	27	23	17	101	2.11
2.08	Professional Autonomy of teachers.	26	27	25	14	7	99	1.47
2.09	Teachers' centre (like the one in SCERT, Madras)	18	26	28	18	10	100	1.76

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
2.10	Teacher-adides	10	15	19	25	32	101	2.56

As presented in Table:4.33, B.Ed. students had more than a good deal of Awareness of In-service Education and Training of Teachers and 42% of them were completely aware of it. Their Awareness was more than 'something' with regard to (i) Summer Institutes for teachers; (ii) Action Research by teachers; (iii) National programme of Seminar Readings for teachers and teacher-educators by the NCERT, (iv) Evaluation of teaching; (v) Panel Inspection of Schools in Tamil Nadu; and (vi) Teacher-aides, and in all these cases the weighted item mean was more than 2.

Their Awareness of (i) Experimental and Developmental Projects by teachers, supported with the NCERT funds (ii) Professional Autonomy of teachers and (iii) Teachers' centre (like the one in SCERT, Madras) was limited and the weighted item means were 1.49, 1.47, and 1.76 respectively.

21% of students were totally unaware of the Experimental and Developmental Projects by teachers, supported with the NCERT funds and 26% of them were totally unaware of Professional Autonomy of teachers and 18% were unaware of Teachers' centres like the one in the SCERT at Madras.

D:2:3 <u>Educational Psychology</u>:

The awareness of the B.Ed. students relating to items under the category, Educational Psychology was presented in Table:4.34.

Table:4.34 : Percentage of B.Ed. students at different Levels of Awareness of EDUCATIONAL PSYCHOLOGY and Weighted Arithmetic Item Means:

No. (1)	ITEM STATEMENTS (2)	SCALE OF AWARENESS 0 (3)	1 (4)	2 (5)	3 (6)	4 (7)	Total (8)	Weighted Item Mean (9)
3.0	Educational Psychology:							
3.1	Flexible grouping of pupils	11	19	30	25	14	99	2.10
3.2	Achievement motivation	3	10	24	33	29	99	2.73
3.3	Guidance and Counselling	3	7	21	34	34	99	2.87
3.4	Class-room climate	4	7	20	34	35	100	2.89
3.5	Ned Flanders' Interaction analysis	51	18	16	10	6	101	1.04

As presented in Table:4.34 B.Ed. students had more than average awareness of (i) Flexible Grouping of Pupils; (ii) Achievement motivation; (iii) Guidance and Counselling and (iv) class-room climate under the category of Education Psychology and the weighted item means were 2.10, 2.73, 2.87 and 2.89 respectively. Their awareness of Ned Flanders' Interaction Analysis was considerably below average, the weighted item mean being 1.04. Fiftyone percent were unaware of that item actually.

D:2:4 Educational Management & Administration :

The Awareness of the B.Ed. students regarding items under the category, Educational Management and Administration was presented in Table:4.35.

Table: 4.35: Percentage of B.Ed. students at different Levels of Awareness of EDUCATIONAL MANAGEMENT & ADMINISTRATION and Weighted Arithmetic Item Means:

No.	ITEM STATEMENTS	SCALE OF AWARENESS 0	1	2	3	4	Total	Weighted Item Mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4.00	EDUCATIONAL MANAGEMENT & ADMINISTRATION (EMA)							
A	Conceptual Stage:							
4.01	Educational Management by Objectives.	23	28	29	13	6	99	1.49
4.02	Human relations and Communications in Management	14	27	32	18	9	100	1.81
4.03	Assessment of Organisational climate of educational Institutions.	24	23	30	17	6	100	1.58
4.04	College complex	25	27	23	15	10	100	1.58
4.05	Quality Control in Education.	15	25	31	20	10	101	1.87
4.06	Management of Educational Innovations.	30	28	25	13	3	99	1.29
B	Practice Stage:							
4.07	Nationalisation of School text-books	1	8	13	33	45	100	3.13
4.08	Shift System for Schools	7	15	25	30	23	100	2.47
4.09	The School complex Programme.	20	22	28	17	13	100	1.81
4.10	Flexible Scheduling of School work.	13	22	30	22	13	100	2.00
4.11	Central Kitchen for Midday Meals Programme.	6	12	20	28	34	100	2.62
4.12	Autonomous status to certain colleges.	14	17	26	22	21	100	2.19
4.13	Decision making in Educational Management	25	26	28	16	5	100	1.50
4.14	Semester System of Course Organisation	1	7	16	34	42	100	3.09
4.15	Mixed ability Grouping of pupils	13	22	30	21	14	100	2.01

As presented in Table:4.35 B.Ed. students had more than a good deal of awareness of only two items under the category of Educational Management and Administration and they were (i) Nationalisation of school text-books and (ii) Semester System of Course organisation with the weighted arithmetic item means of 3.13 and 3.09. Students' awareness was 'something' with regard to (i) Shift system for schools (2.47); (ii) Flexible Scheduling of School work (2.00); (iii) Central kitchen for Mid-day Meals Programme (2.62); (iv) Autonomous status to certain colleges (2.19); (v) Mixed Ability Grouping of pupils (2.01).

Their awareness of (i) Educational Management by objectives (1.49); (ii) Human relations and communications in management (1.81); (iii) Assessment of organisational climate of educational institutions (1.58); (iv) College complex (1.58); (v) Quality control in education (1.87); (vi) Management of educational innovations (1.29); (vii) The School Complex Programme (1.81); and (viii) Decision making in educational management (1.50) was limited and all the weighted item means were lower than 2.

23% of B.Ed. Students were not aware of Educational management by objectives, 24% were not aware of Assessment of organisational climate of educational institutions, 25% were not aware of the College Complex scheme in Tamil Nadu, 30% of them were unaware of Management of educational innovations, 20% were unaware of the School Complex Programme and 25% were unaware of Decision-making in Educational Management.

D:2:5 METHODS OF TEACHING AND LEARNING:

The awareness of the B.Ed. students of items under the category,

Methods of Teaching and Learning was presented in Table:4.36.

Table:4.36: Percentage of B.Ed. students at different Levels of Awareness of METHODS OF TEACHING AND LEARNING and the Weighted Arithmetic Item Means:

No.	ITEM STATEMENTS	SCALE OF AWARENESS					Total	Weighted Item Mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5.00	METHODS OF TEACHING AND LEARNING.							
A	Educational Technology:							
5.01	Mobile Science Laboratory for schools.	16	21	27	21	16	101	2.02
5.02	A.I.R.Programme use in Schools.	9	10	15	29	37	100	2.75
5.03	Demonstration Method.	2	6	19	29	44	100	3.07
5.04	Educational Television(ETV)	11	20	25	25	19	100	2.21
5.05	Overhead Projecter	9	16	26	20	28	99	2.40
5.06	Language Laboratory	29	24	19	17	11	100	1.57
5.07	Closed circuit Television for educational use.	35	26	21	12	6	100	1.28
5.08	Teaching Machine	35	22	21	13	9	100	1.36
B	Focussed on the Learner:							
5.09	Independent Study	5	17	22	27	20	100	2.58
5.10	Activity based method of teaching & larning.	6	17	20	32	26	101	2.57
5.11	Discovery learning	14	21	22	25	18	100	2.12
5.12	Remedial Teaching	15	19	25	25	18	102	2.16
5.13	Resources based teaching and learning.	15	25	27	20	13	100	1.91
5.14	Simulation	45	19	17	12	7	100	1.17
5.15	Educational games	7	12	22	34	25	100	2.58
5.16	Programmed Instruction	13	21	27	24	15	100	2.07

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
5.17	Open-shelf library (open-access).	10	19	26	25	20	100	2.26
C	Focussed on the Group:							
5.18	Brain-storming	39	24	19	10	8	100	1.24
5.19	Panel Discussion	20	20	27	20	13	100	1.86
D	Focussed on the Teacher:							
5.20	Micro-teaching	2	10	19	25	44	100	2.99
5.21	Teaching models	4	6	13	25	52	100	3.15
5.22	Team Teaching	16	18	26	22	18	100	2.08

As seen in Table:4.36 among the 22 items under Methods of Teaching and Learning, the B.Ed. students had more than a good deal of awareness of only two items, namely the Demonstration Method and the Teaching Models and the weighted item means were 3.07 respectively.

Their awareness was above the mid point of the Scale value for 13 items, out of which four related to Educational Technology. (1) Mobile Soience laboratory for Schools (2.02); (ii) A.I.R. Programme use in Schools (2.75); (iii) Educational Television(2.21); and (iv) Overhead Projector (2.40) Seven of them were focussed on the Learner - and they were (i) Independent study (2.58); (ii) Activity based method of teaching and learning (2.57); (iii) Discovery learning (2.12); (iv) Remedial Teaching (2.16); (v) Educational games (2.58); (vi) Programmed Instruction (2.07); and (vii) Open-shelf library (open-access)(2.26). Two of them were focussed on the Teacher-and they were Micro-Teaching and Team Teaching, the weighted arithmetic item means being 2.99 and 2.08 respectively.

With regard to the rest of the seven items, their average awareness was below the mid point of the scale value and they were (i) Language Laboratory (1.57); (ii),Closed circuit Television for educational use (1.28); (iii) Teaching Machine (1.36); (iv) Resources based teaching and learning (1.91); (v) Simulation (1.17); (vi) Brain-storming (1.24), and (vii) Panel Discussion (1.86).

Under Educational Technology, 35% of the B.Ed. students were not aware of Closed Circuit Television for educational use and the Teaching Machine. Besides 29% of students were unaware of Language Laboratory while 16% were unaware of Mobile Science Laboratory for Schools.

Under Focus on the Learner, 45% students did not have awareness of Simulation and 15% did not have awareness of Remedial Teaching as well as Resources based Teaching and Learning. Their awareness of methods of teaching and learning focussed on the group was poor and 39% of them were unaware of Brain Storming and 20% unaware and Learning with a focus on the teacher, Team Teaching remained in the zone of unawareness of 10% of them.

D:2:6 EDUCATIONAL EVALUATION :

The details relating to B.Ed. students' Awareness of Recent Developments under the category, Educational Evaluation could be seen in Table.4.37.

Table:4.37: Percentage of B.Ed. students at different Levels of Awareness of Educational Evaluation and the Weighted Arithmetic Item-Means:

No. (1)	ITEM STATEMENTS (2)	SCALE OF AWARENESS 0 (3)	1 (4)	2 (5)	3 (6)	4 (7)	Total (8)	Weighted Item Mean (9)
6.00	EDUCATIONAL EVALUATION							
A	Conceptual dimension:							
6.01	Concepts of Formative and Summative evaluation (B.S. Bloom).	48	23	14	9	6	100	1.02
6.02	Objectives based testing and examining .	7	15	27	29	22	100	2.44
6.03	Criterion referenced Testing and examining	37	23	22	11	7	100	1.28
6.04	Taxonomies of Educational Objectives (B.S. Bloom et al).	43	20	19	11	7	100	1.19
6.05	Improved Question Paper Construction	8	15	29	28	21	100	2.41
6.06	Objective type tests	3	6	13	26	52	100	3.18
6.07	Structured Essay type Questions.	7	10	18	27	39	101	2.83
6.08	Diagotic tests	7	10	19	28	36	100	2.76
6.09	Unit tests.	8	14	20	28	30	100	2.58
6.10	Open Book Examinations	13	20	24	25	18	100	2.15
B	Administrative Dimension:							
6.11	Progressive and Cumulative Assessment.	7	15	21	28	29	100	2.57
6.12	Internal Assessment	2	4	10	26	58	100	3.34
6.13	Question/Item Banking.	13	15	22	28	22	100	2.31
6.14	Central evaluation of examination answer-scripts.	12	16	26	25	21	100	2.27

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6.15	Increased objectivity in marking answer-scripts by using a scoring key etc.	11	19	22	26	22	100	2.29
6.16	Compartmentalisation of Examination	19	19	25	20	17	100	1.97
6.17	Course evaluation	23	24	26	17	9	99	1.63
C.	Statistical dimension:							
6.18	Awarding grades (either independently or based on percentages).	8	11	25	28	28	100	2.57
6.19	Use of the technique of scaling of marks	13	15	29	25	18	100	2.20
6.20	Use of Standard Scores	15	18	28	22	17	100	2.08

At the end of the B.Ed. Course, out of 20 items of Recent Developments under Educational Evaluation, students had more than a good deal of awareness of only 2 items; (i) objective type tests and (ii) Internal Assessment with 3.18 and 3.34 as weighted arithmetic mean scores respectively as shown in Table:4.37.

Under the conceptual dimension of Educational Evaluation, they had more than average awareness of (i) Objectives based testing and examining (2.44); (ii) Improved question Paper Construction (2.41); (iii) Structured essay type questions (2.83); (iv) Diagnostic tests (2.76); (v) Unit tests (2.58); and (vi) Open book examinations (2.15).

Under the administrative dimension of Educational Evaluation, they had more than average awareness of (i) Progressive and Cumulative Assessment (2.57); (ii) Question/Item Banking (2.31) (iii) Central Valuation of Examination Answer-scripts (2.27); and (iv) Increased objectivity in Marking Answer-scripts by using a Scoring key etc.(2.29).

Under the statistical dimension, they were aware of more than something regarding (i) Awarding Grades (either independently or based on percentages),(2.57); (ii) Use of the technique of Scaling of Marks (2.20); and (iii) the Use of Standard Scores (2.08).

Their awareness was poor regarding (i) Bloom's Concepts of Formative and Summative evaluation (1.02); (ii) Criterion referenced testing and examining (1.28) and Taxonomies of Educational objectives of B.S.Bloom et al (1.19). Their awareness was below average regarding Compartmentalisation of Examination (1.47) and Course evaluation (1.63).

The unawareness of B.Ed. students was most marked with reference to three conceptual items of Recent Developments in Educational Evaluation. 48% of them had not heard of Formative and Summative Evaluation, 43% had not heard of the Taxonomies of Educational Objectives of B.S.Bloom et al and 37% of them were not conscious of Criterion-referenced testing and examining. 19% were not aware of Compartmentalisation of Examination, 23% were not aware of Course Evaluation and 15% were unaware of standard Scores.

D:2:7 EDUCATION AND THE CURRICULUM:

The particulars regarding the Awareness of Recent Developments of the B.Ed. students under the category, Education and the Curriculum could be referred in Table:4.38.

Table:4.38: Percentage of B.Ed. students at different levels of Awareness of EDUCATION AND THE CURRICULUM and the Weighted Arithematic item-means:

No. (1)	ITEM STATEMENTS (2)	SCALE OF AWARENESS 0 (3)	1 (4)	2 (5)	3 (6)	4 (7)	Total (8)	Weighted Item-mens (9)
7.0	EDUCATION AND THE CURRICULUM:							
7.1	Compulsory Physical and Health Education.	2	7	15	31	45	100	3.10
7.2	UNESCO-UNICEF Science	9	17	26	28	20	100	2.33
7.3	Integrated Curriculum	6	18	23	30	23	100	2.46
7.4	Nutrition Education	3	8	17	30	44	102	3.08
7.5	Population Education	4	14	24	28	30	100	2.66
7.6	Work Experience in School Education.	4	7	15	30	44	100	3.03
7.7	Vocationalisation of Higher Secondary Education.	3	10	17	34	36	100	2.90
7.8	The three-Language Formula.	3	6	15	27	49	100	3.13

At the end of the B.Ed. course, students were aware of more than a good deal of four items under Education and the Curriculum and these were (i) Compulsory Physical and Health education in Tamil Nadu, (ii) Nutrition Education; (iii) Work Experience in School Education and (iv) the three-Language Formula with 3.10, 3.08, 3.03 and 3.13 as weighted item means respectively as shown in Table 4.38.

The students were aware of a little more than something of (i) UNESCO-UNICEF Science; (ii) Integrated curriculum; (iii) Population Education and Vocationalisation of higher Secondary education.

It was remarkable that 45% of them were completely aware of [illegible] of Compulsory Physical and Health Education, 44% were aware completely of Nutrition Education, and Work experience and 49% were totally aware of the Three-Language Formula in the school curriculum.

D:2:8 EDUCATION AND THE COMMUNITY:

The detailed particulars concerning the B.Ed. student awareness of items under the category, Education and the Community were located in Table:4.39:

Table:4.39: Percentage of B.Ed. Students at different Levels of Awareness of EDUCATION AND THE COMMUNITY AND the Weighted Arithmetic Item-Means:

No.	ITEM STATEMENTS	SCALE OF AWARENESS					Total	Weighted Item means
		0	1	2	3	4		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8.00	EDUCATION AND THE COMMUNITY.							
A	A New Outlook:							
8.01	Equality of Educational Opportunity and Education of the Disadvantaged Sections of the People.	5	10	16	26	43	100	2.92
8.02	Non-Formal education	6	10	21	31	32	100	2.73
8.03	Life long Integrated Education	19	19	26	21	15	100	1.94
B.	The Educational system's response to Community Needs:							
8.04	Correspondence education (own-time education).	3	9	17	30	41	100	2.97
8.05	Evening College Courses (Part-time education)	4	7	17	32	40	100	2.97
8.06	Functional Literacy Programme	17	17	29	23	14	100	2.00
8.07	Book Banks in Schools and Colleges	3	5	16	28	48	100	3.13

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
8.08	Community and Social Service by College students.	3	4	12	24	57	100	3.28
8.09	Open University	17	21	25	19	19	101	2.04
	C. Community Support for Education.							
8.10	Mid-day Meals Scheme	2	5	13	29	51	100	3.13
8.11	Parent Teacher Association	3	6	12	29	50	100	3.17
8.12	School Improvement Projects through community Support.	7	15	26	27	25	100	2.58

Relating to Table:4.39 B.Ed. students were aware of a good deal of (i) the Scheme of Book Banks in Schools and Colleges; (ii) Mid-day Meals Scheme and (iii) Parent Teacher Associations and the corresponding weighted item means were 3.13, 3.28, 3.13, and 3.17.

Their awareness was above average with regard to (i) Equality of Educational Opportunity and education of the Disadvantaged Sections of the People (2.92) (ii) Non-formal education (2.73); (iii) Correspondence Education (own-time education)(2.97); (iv) Evening college Courses (part-time education (2.97); (v) Functional Literacy Programme (2.00); (vi) Open University (2.04) and (vii) School Improvement Projects through community support (2.58).

They happened to be poorly aware of Life-long Integrated Education, a message championed by no less an organisation than UNESCO.

8.6 Complete awareness of Community and Social Service by College

Students was held by 57% B.Ed. students; Mid-day Meals scheme by 51%; Parent Teacher Associations by 50%, Book Banks in Schools and Colleges by 48% and Equality of Educational Opportunity and Education of the Disadvantaged Sections of the people by 43%. On the other hand 17% of B.Ed. students were in the dark regarding the Functional Literacy Programme and the Open University.

D:2:9 EDUCATIONAL REPORTS:

The figures relating to B.Ed. student-awareness of Recent Developments under category IX were put in Table:4.40:

Table:4.40: Percentage of B.Ed. students at different LEVELS of AWARENESS of EDUCATIONAL REPORTS AND the Weighted Arithmetic Item-means:

No.	ITEM STATEMENTS	SCALE OF AWARENESS					Total	Weighted Item mean
		0	1	2	3	4		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
9.0	EDUCATIONAL REPORTS NATIONAL:							
9.1	The University Education Commission Report (Dr.S.Radhakrishnan-1949)	2	5	10	30	54	101	3.31
9.2	Report of the Committee on Rural Higher Education	29	23	21	13	14	100	1.60
9.3	Indian Education Commission Report entitled "Education and National Development" (Dr.K.S. Kothari) 64-66	3	5	9	24	59	100	3.29
B.	BRITISH							
9.4	Plowden Committee Report on "Children and their Primary School" HMSO, 1967.	56	21	11	6	7	101	0.89

Relating to Table:4.40 at the terminal point of the B.Ed. course, students were aware of a good deal regarding two Educational

Reports, viz., The University Education Commission Report under the chairmanship of Radhakrishnan in 1949 and the Education Commission Report entitled "Education and National Development" under the Chairmanship of Kothari(1964-66) and the weighted arithmetic item-means were 3.31 and 3.29 respectively. However, students had very limited awareness of the Report of the Committee on Rural Higher Education under the Chairmanship of Shrimali and the item-mean was only 1.60. Their awareness was extremely poor in the case of the remarkable Plowden Committee Report entitled" children and their Primary Schools", HMSO 1957 because the weighted item mean was barely 0.89 and in fact this was the item of which they were least aware in a list of 130 Recent Developments in Education.

56% of B.Ed. students did not seem to be aware of Plowden Report while 21% had just heard of it. 29% of them were in the dark regarding Shrimali committee Report on Rural Higher Education which led to the establishment of Rural Higher institutes in the country and 23% had just heard of it.

D:2:10 : <u>EDUCATIONAL PLANNING</u> :

The item-wise awareness of the B.Ed. students of items under Educational Planning was reported in Table:4.41.

Table:4.41 : Percentage of B.Ed. students at different levels of Awareness of EDUCATIONAL PLANNING and the weighted Arithematic Item-means:

No.	ITEM STATEMENTS	SCALE OF AWARENESS 0	1	2	3	4	Total	Weighted Arithematic Item-mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
10.0	EDUCATIONAL PLANNING:							
A.	Policy and Planning :							
10.1	Planning for Equalisation of Educational Opportunity	3	9	18	32	38	100	2.93
10.2	Planning for Higher Secondary Education	3	9	24	32	32	100	2.81
10.3	Planning a Multiple-Entry and Exit System of Education	26	19	26	20	9	100	1.57
B.	Approaches to Planning:							
10.4	Man power Planning	22	32	27	11	9	100	1.51
10.5	Institutional Planning	19	29	27	18	7	100	1.65
10.6	Economics of Education	17	28	26	19	10	100	1.77
C.	Plan :							
10.7	Educational Survey.	12	24	29	22	13	100	2.00

Judged by the weighted arithmetic item-means, the awareness of B.Ed. students of the Madras University did not reach a good standard with respect to any item of Recent Developments under the category, EDUCATIONAL PLANNING. They were however aware of something regarding (i) Planning for Equalisation of Educational opportunity, (ii) Planning for Higher Secondary Education, and (iii) Educational Survey and the respective weighted arithematic item-means were 2.93. 2.81, and 2.80. Their awareness was very limited in the case of (i) Planning a Multiple Entry and Exit System of education (1.67);

(ii) Man-power Planning (1.51); (iii) Institutional Planning (1.65); and (iv) Economics of Education (1.77).

22% of students had not heard of Man-power Planning and 19% were blissfully ignorant of Institutional Planning and 17% were not conscious of Economics of Education.

D:2:11 : EDUCATIONAL LITERATURE :

The detailed figures relating to the B.Ed. Students' awareness of items under the category were placed in Table:4.42:.

Table:4.42: Percentage of B.Ed. stdents at different Levels of Awareness of EDUCATIONAL LITERATURE and the weighted Arithematic Item-Means:

No.	ITEM STATEMENTS	SCALE OF AWARENESS					Total	Weighted Arith-matic mean.
		0	1	2	3	4		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11.1	Work-book for Students	5	10	23	28	34	100	2.76
11.2	Programmed Texts	14	14	26	28	18	100	2.22
11.3	Taxonomy of Educational Objectives Vol.I (Cognitive Domain) (Bloom et al) Longmans, 1958.	49	19	15	10	7	100	1.07
11.4	Taxonomy of Educational Objectives Vol.II (Affective Domain) (David R.Krothwohl) Longmans, 1964.	51	21	14	9	5	100	0.96

As shown in Table:4.42 at the end of the B.Ed. course in the University of Madras, students were aware of more than something regarding Workbook for students and Programmed texts and the corresponding weighted arithematic item means were 2.76 and 2.22. However, their awareness of (i) Taxonomy of Educational objectives vol-I (Cognitive

Domain) by B.S. Bloom et al Longmans, 1958 and (ii) Taxonomy of Educational Objective Vol.II (Affective Domain) by David R.Krothwohl et al. Longmans, 1964 was extremely poor and the respective weighted arithemetic item-means were 1.07 and 0.96. About 50% of them were absolutely unaware and about 20% of them had just heard of these two major Taxonomies of Educational Objectives.

D:2:12 : EDUCATIONAL AGENCIES :

The B.Ed. students awareness of Educational Agencies could be seen in table: 4.43.

Table: 4.43 : Percentage of B.Ed. students at different Levels of Awareness regarding EDUCATIONAL AGENCIES and the weighted Arithematic Item-means:

No.	ITEM STATEMENTS	SCALE OF AWARENESS					Total	Weighted Arithmatic item Means
		0	1	2	3	4		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12.00	EDUCATIONAL AGENCIES:							
	A. State Level:							
12.01	State Council of Educational Research and Training (SCERT) Madras.	9	19	29	24	19	100	2.25
12.02	The State Institutes of Education.	9	25	30	21	15	100	2.08
12.03	The State Evaluation Unit	26	26	25	12	7	100	1.42
12.04	Examination Reform Units in Select Universities.	19	23	31	20	7	100	1.72
	B. Regional Level:							
12.05	Technical Teachers' Training Institute (Southern Region) Madras.	11	26	26	22	16	101	2.08
12.06	Regional Institute of English, Southern Region Banglaore.	20	23	26	18	14	101	1.85

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
12.07	Regional Colleges of Education	9	19	27	27	18	100	2.26
	C. National Level :							
12.08	Rural Higher Institutes.	29	28	22	15	7	101	1.45
12.09	Central Institute of Hyderabad.	26	28	22	15	10	101	1.57
12.10	Kendriya Vidyalaya Sangathan	23	21	25	18	15	102	1.85
12.11	National Council of Educational Research and Training (NCERT) New Delhi.	25	27	23	14	11	100	1.59
12.12	Indian Council of Social Science Research (ICSSR) Delhi.	25	27	23	14	11	100	1.59
12.13	University Grants Commission (UGC)	5	9	17	30	39	100	2.89
12.14	Association of Indian Universities New Delhi	25	30	25	13	8	101	1.51
	International Level:							
12.15	UNESCO Regional Office for Education in Asia, Bangkok.	33	30	19	11	8	101	1.33

As shown in Table:4.43 among the fifteen educational agencies mentioned at four levels; state, regional, national and international, the awareness of B.Ed. students of the Madras University did not reach a good standard even in a single case. However, they had been aware of something regarding six educational agencies viz.
(i) State Council of Educational Research and Training, (SCERT) Madras (2.25) (ii) The State Institutes of Education (2.08) (iii) Technical Teacher's Training Institute (Southern Region), Madras (2.08) (iv) Regional colleges of Education (2.26) (v) National council of Educational Research and Training (NCERT), New Delhi (2.49) and (vi) University Grants Commission (UGC)(2.89)

The awareness of students was very limited regarding nine agencies viz. (i) The State Evalu: ation Units (1.42) (ii) Examination Reform Units in Select Universities (1.73) (iii) The Regional Institute of English, (Southern Region) (v) The Central Institute of English and Foreign Languages, Hyderabad (1.57) (vi) Kendriya Vidyaleya Sangathan (1.15) (vii) Indian Council of Social Science Research (ICSSR), New Delhi (1.59) (viii) The Association of Indian Universities (AIU) New Delhi (1.51), and (ix) UNESCO Regional Office for Education in Asia, Bangkok (1.33).

29% of students had not heard of State Evaluation Units, and the Rural Higher Institutes. 25% of students had not heard of the Indian Council of Social Science Research, (ICSSR) New Delhi and the Association of Indian Universities, (AIU), New Delhi. 26% of the students were not aware absolutely of the Central Institute of English and Foreign Languages, Hyderabad and 20% were not aware of the Regional Institute of English at Banglore. 33% were blissfully ignorant of UNESCO Regional Office for Education in Asia at Bangkok.

D:2.13 : AWARENESS OF THE 12 CATEGORIES:

The particulars relating to B.Ed. students' awareness of the Recent Developments in Education under 12 categories were placed in Table:4.44 below:

Table: 4.44 : Average percentage of B.Ed. students at different Levels of Awareness of the 12 categories of Recent Developments together with weighted Arithematic mean of Awareness and Rank Status:

Category No.	Level of Awareness					Total	Weighted Arithmatic mean	Rank Status
	0	1	2	3	4			
I	8.7	20.6	25.9	20.7	23.2	99.1	2.283	4
II	11.4	20.4	25.0	23.7	20.0	100.1	2.209	7
III	14.5	12.2	22.3	27.3	23.7	100.0	2.335	3
IV	15.4	20.6	25.8	21.3	16.9	100.0	2.037	10
V	16.2	17.8	22.0	22.3	22.1	100.4	2.171	8
VI	15.2	15.6	21.9	23.3	23.9	99.9	2.252	6
VII	4.2	10.8	19.0	29.7	36.3	100.0	2.829	1
VIII	7.4	10.7	19.2	26.6	36.2	100.1	2.735	2
IX	22.4	13.4	12.7	18.2	33.3	100.0	2.266	5
X	14.6	21.5	25.3	22.0	16.7	100.1	2.052	9
XI	29.8	16.0	19.5	18.8	16.0	101.1	1.753	12
XII	18.5	23.2	24.6	19.2	14.5	100.0	1.873	11
Total Scale	14.9	16.9	21.9	22.8	23.6	100.1	2.232	

D:2:14 : DISCUSSION :

As presented in Table.4.44, 14.9% of B.Ed. students were not at all aware of certain Recent Developments in Education (RDE), 16.9% of the students had just heard of Certain other Recent Developments in Education and these two put together, 31.8% of students might be regarded as falling below the mid scale-value and hence sub-standard in their awareness. The University of Madras would have to note that such a large percentage of Students were poor in their awareness of Recent Developments in Education. 21.9% of students were aware of something relating to certain RDE, 22.8% were aware a good deal of certain Recent Developments in Education and only 23.6% were completely aware of certain Recent Developments in Education.

The 'unawareness' of the B.Ed. students ranges from 4.2% in the case of category VII (Education and the Curriculum) to 29.8% in the case of category XI (Educational Literature). Considering the weighted Arithmetic Mean Awareness of the B.Ed. students, the 12 categories were arranged in rank order status. It was found that category VII (Education and the curriculum) got rank 1 status and it might be due to the fact that B.Ed. students would have come to know of this through the B.Ed. course work. Rank 12 status was accorded to category XI (Educational Literature) and this could be due to the general state of poor resources in the Liberaries of most colleges of Education and the teaching in such colleges which did not emphasise using more ducational literature Category (Educational Planning), category IV (Educational Management and Administration) and category XII (Educational Agencies) secured ranks 9, 10, and 11 respectively. The poor rank status of these categories might be because these were not explicitly included and covered in the formal curriculum/Whatever had not been included in the formal curriculum might not get disseminated extensively among the population of student-teachers.

D:3 AWARENESS OF RECENT DEVELOPMENTS IN EDUCATION OF M.Ed. STUDENTS:

M.Ed students responded to the Rating Scale on Awareness of the Recent Developments in Education (RSARDE) and self assessed their awareness of 130 items of Recent Developments on a five point scale of 0, 1,2, 3, and 4 score valjes. The items had been classified conceptually into twelve categories of Recent Developments.

D.3.1: EDUCATION AND THE STATE.

The details relating to their awareness of items under Education

and the state were placed in Table 4.45

Table 4.45 Percentage of M.Ed students at different Levels of Awareness of EDUCATION AND THE STATE and weighted arithmetic ± item means:

No	ITEM STATEMENTS	SCALE OF AWARENESS					Total	WEIGHED ITEM-MEAN
		0	1	2	3	4		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A.	MATTER OF STATE POLICY:							
1.1	National Policy on Education 1968	9	26	35	18	13	101	2.02
1.2	Education being placed in the concurrent list of the Constitution, 1976.	14	27	29	21	9	100	1.85
1.3	Secular nature of Education in the public schools of India.	5	17	41	23	14	100	2.24
1.4	National Structure and Pattern of Education (10+2+3)	0	3	15	33	49	100	3.28
1.5	Free and compulsory Primary Education	1	4	4	32	59	100	3.44
B.	National Schemes for the Tabanted:							
1.6	NCERT'S National Talent Search Scheme	10	19	28	27	15	98	2.16
1.7	NCERT'S National Rural Talent Search Scheme	26	24	23	14	13	100	1.64
1.8	NCERTS National Science Talent Search Scheme	14	18	28	21	19	100	2.13

As presented in Table 4.45 students at the end of the M.Ed. couse had more than a good deal of awareness of (i) National Structure and Pattern of education (10+2+3), and (ii) Free and compulsory Primary Education for they had obtained weighted item means of 3.28 and 3.44 respectively. They were aware of more than 'something' regarding (i) National Policy on Education, 1968 (2.01) (ii) Secular Nature of Education in the public schools of India (2.24) (iii) NCERT'S National Talent Search Scheme (2.16) and (IV) NCERT'S National Science Talent Search Scheme (2.13). Their awareness was limited in the case of (i) Education being placed in the Concurrent List of the constitution, 1976 (1.85) and (ii) NCERT'S National Rural Talent Search Scheme (1.64)

It was found that 26% of the students were absolutely unaware of the NCERT'S National Rural Talent Search Scheme and 14% were unaware of Education being placed in the Concurrent list of the Constitution during 1976 and the NCERT'S National Science Talent Search Scheme.

D.3.2. EDUCATION AND TEACHERS:

The detailed particulars regarding M.Ed students' awareness of Recent Developments under theCategory Education and the Teachers were given in Table 4.46

Table 4.46 Percentage of M.Ed students at different Levels of Awareness of 'Education and the Teachers' and weighted Arithematic Item-means:

No.	ITEM STATEMENTS	Scale of Awareness 0	1	2	3	4	Total	Weighted item mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A	Teacher Development:							
2.01	In-service education and training of teachers	1	5	6	28	59	99	3.37
2.02	Summer Institutes for teachers	0	5	24	26	45	100	3.11
2.03	Action Research by teachers	4	14	27	29	26	100	2.59
2.04	National Programme of Seminar Readings for teachers and teacher educators by the NCERT	10	24	28	22	15	99	2.06
2.05	Experimental and developmental projects by teachers supported with the NCERT funds	13	32	26	18	12	101	1.86
2.06	Evaluation of teaching	3	9	27	35	27	101	2.76
2.07	Panel Inspection of schools in Tamil Nadu							
B.	Professionalism of Teachers:	6	9	13	29	42	99	2.90
2.08	Professional autonomy of teachers	32	28	22	10	8	100	1.34
2.09	Teachers' centre like the one in SCERT Madras	15	18	27	19	21	100	2.13
2.10	Teacher aides	14	14	14	31	27	100	2.43

As seen in Table 4.46 M.Ed students had more than a good deal of awareness regarding the two items (i) in-service education and training of teachers and Summer Institutes for Teachers and the weighted item means were 3.37 and 3.11 respectively.

Their awareness was a little more than 'something' with regard to (1) Action Research by Teachers (2.59); (ii) National Programme of Seminar Readings for Teachers and Teacher educators by the NCERT (2.06); (iii) Evaluation of teaching (2.76); (iv) Panel inspection of schools in Tamil Nadu (2.90); (v) Teachers' centre like the one in SCERT, Madras (2.13); and (vi) Teacher aides (2.43).

Their awareness was very limited in the case of (i) Experimental and Developmental Projects by teachers supported with the NCERT Funds (1.86) and (ii) Professional autonomy of teachers.

32% of the students were not aware of Professional Autonomy of Teachers, 15% of Teachers' centre, 14% of Teacher aides at the time of completing the post graduate course. An item of which everyone had certain level of awareness was Summer Institutes for teachers.

D.3.3: EDUCATIONAL PSYCHOLOGY:

The particulars relating to the awareness of the M.Ed students with respect to items under the category Educational Psychology could be seen in Table 4:47

PERCENTAGE OF M.Ed.STUDENTS AT DIFERENT LEVELS OF AWARENESS OF EDUCATIONAL PSYCHOLOGY AND Weighted Arithmetic Item-means:

No ITEM STATEMENTS	SCALE OF AWARENESS					Total	Weighted Item mean
	0	1	2	3	4		
(1) (2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
3.1 Flexible Grouping of pupils	24	15	55	17	9	100	1.72
3.2 Achievement Motivation.	14	15	14	36	21	100	2.35
3.3 Guidance and counselling	0	14	23	29	33	99	2.79
3.4 Class room Climate	4	14	19	35	28	100	2.69
3.5 Ned Flanders Interaction Analysis	19	14	15	36	36	101	2.39

As seen in Table ß 4.47, among the five items under Educational Psychology, M.Ed students were not aware of a good deal of any single item. They were aware of something connected with (i) Achievement Motivation (2.35), (ii) Guidance and Counselling(2.79) (iii) Class-room Climate (2.69) and (iv) Ned Flanders' Class-room Interaction Analysis System (2.39).

24% of the students had not heard of Flexiable grouping of pupils, 19% of Ned Flanders' Interaction Analysis and 14% of Achievement Motivation.

D.3.4: EDUCATIONAL MANAGEMENT AND ADMINISTRATION:

M.Ed Students' Awareness ofRecent Developments in Educational Management and Administration was placed item wise in Table 4.48 below

Table 4.48: Percentage of M.Ed students at different Levels of Awareness of Educational Management and Administration and weighted Arithemetic Item Means:

No.	Item Statements	SCALE OF AWARENESS 0	1	2	3	4	Total	Weighted Item mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
EDUCATIONAL MANAGEMENT AND ADMINISTRATION (EMA):								
A.	Conceptual Stage:							
4.01.	Educational Management by Objectives.	45	12	24	10	9	100	1.26
4.02	Human relations and Communications in Management	35	22	22	16	6	101	1.38
4.03	Assesment of organisational climate of educational institutions	23	24	28	21	6	100	1.63
4.04	College Complex	27	22	21	17	14	101	1.71
4.05	Quality control in education	24	19	27	19	10	99	1.70
4.06	Management of educational innovations.							
B.	Practice stage	24	18	35	12	12	101	1.72
4.07	Nationalisations of school text book.	0	8	24	32	36	100	2.96
4.08	Shift system for schools	5	6	23	28	37	99	2.84
4.09	The School complex Programme	10	9	18	23	40	100	2.74
4.10	Flexible scheduling of school work.	19	22	19	23	17	100	1.97
4.11	Central kitchen for Midday Meals Programme	6	15	19	32	27	99	2.57
4.12	Autonomous status to certain Colleges	8	17	24	32	19	100	2.37

(1) (2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
4.13 Decision making in educational management	28	24	26	14	8	100	1.50
4.14 Semester System of course organisation	0	8	21	31	41	101	3.07
4.15 Mixed Ability Grouping of pupils	27	14	23	21	15	100	1.83

As seen in Table 4.48 among the 15 items under Educational Management and Administration students were aware of a good deal regarding only one and that was the 'Semester System of Course Organisation (3.01). Their awareness was a little more than something of the five items; (i) Nationalisation of school text-books (2.96); (ii) Shift System for Schools (2.84); (iii) The School Complex Programme (2.74); (iv) Central Kitchen for Mid-day Meals Programme (2.57); and (v) Autonomous status to Certain Colleges (2.37).

Their awareness was limited regarding the other nine items under EMA. 45% of the students had not heard of Educational Management by Objectives, 35% were not aware of Human Relations and Communications in Management, 28% were unaware of Decision-making in educational management and 27% were unaware of Mixed Ability Grouping of pupils. About one-fourth of students had not heard of (i) Assessment of Organisational Climate of educational institutions, (ii) College Complex, (iii) Quality Control in Education and (iv) Management of Educational Innovations.

D.3.5: TEACHING AND LEARNING:

There were 22 items under Teaching and Learning and the M.Ed students awareness of them had been given item-wise in Table 4.49

TABLE 4.49: PER CENTAGE OF M.Ed. STUDENTS AT DIFFERENT LEVELS OF AWARENESS OF METHODS OFTEACHIN AND LEARNING AND WEIGHTED ARITHMETIC ITEM MEANS:

No	ITEM STATEMENTS	LEVEL OF AWARENESS 0	1	2	3	4	Total	Weighted item mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A.	Educational Technology:							
5.01	Mobile Science Laboratory for schools	9	8	17	31	36	101	2.79
5.02	A.I.R.Programme use in Schools.	1	5	21	27	46	100	3.12
5.03	Demonstration Method	1	9	13	29	47	99	3.10
5.04	Educational Television (ETV)	13	26	22	22	18	101	2.08
5.05	Overhead Projector	24	18	19	17	22	100	1.95
5.06	Language Laboratory	31	19	23	10	17	100	1.71
5.07	Closed Circuit Television for educational use	32	19	15	13	21	100	1.72
5.08	Teaching Machine	8	22	21	22	28	101	2.42
B.	Focussed on the Learner:							
5.09	Independent study	1	15	23	28	32	99	2.73
5.10	Activity based method of Teaching of Learing	6	6	23	31	33	99	2.77
6.11	Discovery Learning	22	23	22	23	10	100	1.76
5.12	Remedial Teaching	14	14	24	27	21	100	2.27
5.13	Resources based Teaching and Learning	18	18	32	21	12	101	1.93
5.14	Simulation	35	21	12	19	14	101	1.58
5.15	Educational games	5	19	18	31	27	100	2.56
5.16	Programmed Instruction	5	9	10	37	38	99	2.92
5.17	Open Shelf Library (open-access)	18	17	23	17	26	101	2.18

(1) (2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
C Focussed on the Group:							
5.18 Brain storming	28	29	21	12	10	100	1.47
5.19 Panel Discussion	8	12	32	29	19	100	2.39
5.20 Micro-teaching	3	9	18	32	38	100	2.93
5.21 Teaching Models	3	3	15	35	45	101	3.18
5.22 Team Teaching	8	17	19	28	28	200	2.51

Referring to Table 4.49 among the 22 items under Methods of Teaching and Learning, M.Ed students were aware of a good deal of only three items; (i) A.I.R., programme use in Schools, (ii) Demonstration Method and (iii) Teaching Models and the weighted item means were 3.12,3.10 and 3.18 respectively.

They were aware of more than something regarding twelve items: (i) Mobile Science Laboratory for schools (2.79);(ii) Educational Television(2.08); (iii) Teaching Machine (2.42);(iv)Indepandant study (2.73);(v) Activity based Method of Teaching and Learning (2.77); (vi) Remedial Teaching (2.27) (vii) Educational Games (2.56);(viii) Programmed Instruction(2.92) (xi) Open-access Library (2.18);(x) panel Discussion (2.39), (xi) Micro-teaching (2.93), and (xii) Team Teaching(2.51).

Their awareness was limited regarding six items (i)Over head Projector; (ii) Language Laboratory;(iii) Closed Circuit Television for educational use (iv) Discovery Learning, and (v) Brain Storming.

35% of students were absolutely unaware of Simulation, and 32% were unaware of Closed Circuit Television for educational use. 31% students were unaware of Language Laboratory, 28% unaware of Brain storming, 24% unaware of Overhead Projector, and 22% unaware of Discovery Learning.

D.3.6: EDUCATIONAL EVALUATION:

The particulars relating to percentage of M.Ed students at different levels of awareness of the Recent Developments in Educational Evaluation and the weighted item means of those items were placed in Table 4.50

TABLE 4.50: PERCENTAGE OF M.Ed. STUDENTS AT DIFFERENT LEVELS OF Awareness of EDUCATIONAL EVALUATION AND THE WEIGHTED ARITHMETIC ITEM MEANS:

No	ITEM STATEMENTS	SCALE OF AWARENESS 0	1	2	3	4	Total	Weighted Item mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A. Conceptual dimension								
6.01	Concepts of Formative and summative Evaluation (Bloom)	26	22	18	21	14	101	1.77
6.02	Objectives-based Testing and Examining.	10	18	17	27	28	100	2.45
6.03	Criterion referenced Testing and Examining	45	23	13	12	8	101	1.18
6.04	Taxonomies of Educational Objectives.	32	27	15	13	13	100	1.48
6.05	Improved Question Paper construction	12	14	21	27	27	101	2.45
6.06	Objective-type Tests	8	6	5	29	51	99	3.01

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6.07	Structured Essay type questions	6	14	22	32	26	100	2.58
6.08	Diagnostic tests.	4	8	26	29	33	100	2.79
6.09	Unit tests	10	17	19	22	32	100	2.49
6.10	Open book Examinations	19	14	21	28	18	100	2.12
B. Administrative Dimension:								
6.11	Progressive and Cumulative Assessment	10	17	38	33	21	100	2.38
6.12	Internal Assessment	0	4	12	31	54	101	3.07
6.13	Question/Item Banking	9	6	17	38	29	99	2.70
6.14	Central Valuation of Examination Answer scripts	6	5	10	29	49	99	3.08
6.15	Increased Objectivity in Marking answer script by using a Scoring Key etc.	18	9	27	29	17	100	2.18
6.16	Compartmentalisation of Examination	13	9	21	26	32	101	2.57
6.17	Course Evaluation.	24	24	26	14	12	100	1.66
C. Statistical Dimension:								
6.18	Awarding Grades(either independently or based on percentages)	6	10	26	14	12	100	2.63
6.19	Use of the technique of Scaling of Marks	16	15	33	26	14	100	2.15
6.20	Use of Standard Scores	19	13	26	26	17	101	2.11

Under table 4.50 of the 20 items under Educational Evaluation, M.Ed students were aware of a great deal of only three items, namely (i) Objective-type Tests, (ii) Internal Assesment and (iii) Central Valuation of Examination answer-scripts and the weighted item means were 3.01, 3.07, and 3.08 respectively.

They were aware of more than something regarding the thirteen items; (i) objectives based Testing and Examining (2.45) (ii) Improved Question Paper construction (2.45); (iii) structured Essay-type Questions(2.58) (iv)Diagnostic Tests (2.49);(v)Unit Tests (2.49),(vi)Open book Test or Examinations (2.12)(vii) Progressive and Cumulative Assesment (viii)Question/Item banking (2.70);(ix)Increased Objectivity in marking answer-scripts by using a Scoring key etc., (x) Compartmentalisation of Examination (2.57);(xi) Awarding Grades (either independently or based on percentages)2.63);(xii) Use of the technique of Scaling of marks (2.15) and (xiii)Use of Standard Scores (2.11).

Their awareness was limited with regard to four items. 45% of M.Ed students had not heard of Criterion-referenced Testing and Examining, 32% had not been aware of Bloom's Taxonomy of Educational objectives, and 26% were not aware of concepts of Formative and Summative Evaluation and about one-fifth of them had not heard of (i)Open-book Examinations, (ii) Increased objectivity in Marking Answer-scripts by using a Scoring Key etc., (iii)use of the technique of Scaling of Marks and (iv)use of Standard Scores.

D:3:7 EDUCATION AND THE CURRICULUM:

The particulars relating to M.Ed. Students' Awareness of Recent Developments in the Curriculum could be seen in Table:4.51:

Table:4.51 : Percentage of M.Ed. Students at Different Levels of Awareness of Education and the Curriculum and the Weighted Arithmetic Item-Means:

No.	Item Statement	LEVEL OF AWARENESS 0	1	2	3	4	Total	Weighted Item Mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
7.1	Compulsory Physical and Health Education.	6	5	21	29	38	99	3.06
7.2	UNESCO-UNICEF Science	10	15	23	33	18	99	2.32
7.3	Integrated Curriculum	10	14	40	19	17	100	2.19
7.4	Nutrition Education	13	10	26	28	23	100	2.48
7.5	Population Education	3	5	17	32	44	101	3.11
7.6	Work experience in School Education	1	5	10	37	46	99	3.20
7.7	Vocationalisation of Higher Secondary Education.	7	6	9	35	49	100	3.25
7.8	The Three-Language Formula.	1	8	15	31	46	101	3.15

As shown in Table.4.51 among the eight items under the Curriculum, M.Ed. students were aware of a great deal of five of them namely (i) Compulsory Physical and Health Education (3.06); (ii) Population Education (3.11); (iii) Work experience in School Education (3.20) (iv) Vocationalisation of Higher Secondary Education (3.25); and (v) The Three-Language Formula. However their awareness was slightly above average regarding three items;(i) UNESCO-UNICEF Science, (ii) Integrated curriculum and (iii) Nutrition Education and more

than 10% among these Students' and not even heard of these items.

D:3:8 EDUCATION AND THE COMMUNITY :

The details pertaining to the M.Ed. students' awareness of items, under the category, Education and the Community could be seen in Table:4.52:

Table:4.52: Percentage of M.Ed. students at Different Levels of Awareness of Education and the Community and the Weighted Arithmetic Item Means:

No.	Item Statements	LEVEL OF AWARENESS 0	1	2	3	4	Total	Weighted Item Mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A.	A New Outlook:							
8.01	Equality of Educational Opportunity and Education of the disadvantaged Sections of the people.	3	8	10	33	46	100	3.11
8.02	Non-formal Education	4	6	17	28	46	101	3.08
8.03	Life-long integrated Education	26	17	21	13	24	101	1.94
8.04	Correspondence Education (own-time education).	3	12	21	33	32	101	2.81
8.05	Evening College Courses (Part-time education)	1	5	19	21	54	100	3.22
8.06	Functional Literacy Programme.	13	14	19	26	28	100	2.42
8.07	Book Banks in Schools & Colleges.	4	8	15	28	45	100	3.02
8.08	Community and Social Service by College Students.	1	4	9	28	58	100	3.38
8.09	Open University	4	12	21	22	42	100	2.88
C.	Community Support for Education:							
8.10	Mid-day Meals Scheme	4	8	13	24	51	100	3.10
8.11	Parent Teacher Association	0	1	14	26	59	100	3.43
8.12	School Improvement Project through community support	8	10	18	27	36	100	2.73

Referring to Table:4.52, among the 12 items under Education and the Community, M.Ed. students were aware a good deal of seven items namely (i) Equality of Educational Opportunity and Education of the Disadvantaged Sections of the People (3.11); (ii) Non-formal Education (3.08); (iii) Evening College Courses (Part-time education) (3.22); (iv) Book Banks in Schools and Colleges (3.02); (v) Community and Social service by College Students (3.38); (vi) Mid-day Meals Scheme (3.10); and (vii) Parent-teacher Association (3.43).

They were aware of "something" regarding the four items; (i) Correspondence Education (own-time education) (ii) Open University; (iii) Functional Literacy Programme and (iv) School Improvement Projects through community support. Their awareness was very limited regarding the new outlook-Life-Long Integrated Education. 27% of the students had not even heard of this even though this movement had been backed by UNESCO and other agencies.

D:3:9 EDUCATIONAL REPORTS :

The M.Ed. students' Awareness of Educational Reports had been given in detail in Table.4.52.

Table: 4.53: Percentage of M.Ed. Students at Different Levels of Awareness of Educational Reports and the Weighted Arithemetic Item-Means:

No.	Item Statements	LEVEL OF AWARENESS 0	1	2	3	4	Total	Weighted Item Mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A	National:							
9.1	The University Education Commission Report (Dr.S.Radhakrishnan-1949)	0	13	18	29	40	100	2.96
9.2	Report of the Committee on Rural Higher Education (Dr.K.K.Shrimali).	24	29	18	10	18	99	1.67
9.3	Education Commission Report entitled 'Education and National Development' (Dr.D.S. Kothari-64-66).	5	8	19	29	38	99	2.85
B	British:							
9.4	Plowden Committee Report on "Children and their Primary Schools" HMSO.	53	19	10	5	12	99	1.02

As seen in Table:4.53 M.Ed students were aware of'a little more than something' regarding the first and the third national Educational Reports of 1949 and the Indian Education Commission Report of 1964-66. Their awareness was poor regarding the Shrimali Report on Rural Higher Education and poorer still regarding the Plowden Report on 'Children and their Primary Schools'.

D:3:10 EDUCATIONAL PLANNING :

The item-wise awareness of the M.Ed. students relating to Recent Developments in Educational Planning could be seen in Table:4.54.

Table:4.54: Percentage of the M.Ed. Students at Different Levels of Awareness of Educational Planning and the Weighted Arithmetic Item-Means:

No. (1)	Item Statements (2)	LEVEL OF AWARENESS 0 (3)	1 (4)	2 (5)	3 (6)	4 (7)	Total (8)	Weighted Item Mean (9)
A.	Policy & Planning:							
10.1	Planning for Equalisation of Educational Opportunity.	8	13	28	21	31	101	2.56
10.2	Planning for Higher Secondary Education.	4	9	28	27	32	100	2.74
10.3	Planning a multiple entry and exit system	28	17	22	19	14	100	1.74
B.	Approaches to Planning:							
10.4	Manpower Planning	18	29	24	17	12	100	1.76
10.5	Institutional Planning	21	23	27	22	8	101	1.75
10.6	Economics of Education	21	26	24	14	16	101	1.60
C.	Plan:							
10.7	Educational Survey.	13	9	27	28	21	98	2.31

Under Table:4.54 among the seven Recent Developments in Educational Planning, the awareness of M.Ed. students did not reach the level of good deal in any single item. They were aware of something relating to three items; (i) Planning for Equalisation of Educational Opportunity; (ii) Planning for Higher Secondary Education (iii) Educational Survey. They had limited and low order of awareness regarding (i) Planning a Multiple entry and exit system of Education, (ii) Manpower Planning, (iii) Institutional Planning and (iv) the Economics of Education. About one-fifth of students were not conscious of these four items.

D:3:11 EDUCATIONAL LITERATURE :

Item-wise the awareness of the M.Ed. students concerning Educational Literature could be seen in Table:4.55. Besides the percentage of students at the five levels of awareness, the table provided weighted Item-mean values.

Table:4.55: Percentage of M.Ed. students at Different Levels of Awareness of Educational Literature and the Weighted Arithmetic Item-Means:

No.	Items Statements	LEVEL OF AWARENESS					Total	Weighted Item-Mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
11.1	Work Book for Students	9	12	18	32	29	100	2.60
11.2	Programmed Texts	10	14	24	29	22	99	2.37
11.3	Taxonomy of Educational Objectives (Cognitive Domain) Bloom et al.	33	22	22	9	14	100	1.49
11.4	Taxonomy of Educational Objectives (Affective Domain) David R.Krothwhol et al.	42	18	17	9	14	100	1.35

As shown in Table:4.55, M.Ed. students were aware of 'something' regarding Work-book for Students and Programmed Texts and the weighted item means were 2.60 and 2.37 respectively. It was surprising that about one-tenth of them had not heard of Work-book for Students and their Programmed Books. Their Awareness was very low with regard to the Taxonomy of Educational objectives Cognitive and Affective Domains and it was amazing that about 40% of them had no idea of them.

D:3:12 EDUCATIONAL AGENCIES:

In Table:4.56 the particulars pertaining to item-wise awareness of the M.Ed. students on Educational Agencies had been placed.

Table:4.56 : Percentage of M.Ed. Students at Different Levels of Awareness of Educational Agencies and the Weighted Arithmetic Item-Means:

No.	Item Statements	LEVEL OF AWARENESS					Total	Weighted Item Mean
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A.	State Level:							
12.01	State Council of Educational Research & Training (SCERT) Madras.	3	6	19	32	40	100	3.00
12.02	The State Institutes of Education.	5	9	24	27	35	100	2.78
12.03	The State Evaluation Units	18	26	22	18	17	101	1.92
12.04	Examination Reform Units in Select Universities	22	28	24	17	9	100	1.46
B.	Regional Levels:							
12.05	Technical Teachers' Training Institute (Southern Region)Madras	8	21	35	22	16	102	2.21
12.06	Regional Institute of English, Southern Region, Bangalore	5	15	28	22	29	90	2.53
12.07	Regional Colleges of Education	4	9	28	24	36	101	2.81
C.	National Level:							
12.08	Rural Higher Institutes	40	23	17	17	4	101	1.24
12.09	Central Institutes of English, Hyderabad.	8	21	36	21	16	102	2.20
12.10	Kendriya Vidyala Sangathan	27	21	22	19	12	101	1.70
12.11	National Council of Educational Research & Training (NCERT) New Delhi.	3	4	26	32	36	101	2.96
12.12	Indian Council of Social Science Research (ICSSR), New Delhi.	24	22	22	19	13	100	2.62
12.13	University Grants Commission (UGC)	1	13	37	21	28	100	2.62
12.14	Association of Indian Universities,New Delhi	32	29	19	13	6	99	1.30
	International Level:							
12.15	UNESCO Regional Office for Education in Asia, Bangkok.	32	32	23	6	8	101	1.28

Referring to Table 4.56, out of the 15 educational agencies, M.Ed students were aware of a good deal of only one and that was the State Council of Educational Research and Training, Madras. They had some awareness of (i) The State Institutes of Education; (ii) Technical Teachers' Training Institute (Southern Region), Madras (iii) Regional Institute of English, Bangalore; (iv) Regional Colleges of Education (v) Central Institute of English & Foreign Languages Hyderabad; (vi) National Council of Educational Research and Training (NCERT), New Delhi and (vii) University Grants Commission (UGC). They had low and poor awareness of (i) The State Evaluation Units; (ii) Examination Reform Units in certain select Universities; (iii) Rural Higher Institutes; (iv) Kendriya Vidyalaya Sangathan; (iv) Indian Council of Social Science Research (ICSSR), New Delhi; (v) Association of Indian Universities and (vi) UNESCO Regional Office for Education in Asia, Bangkok.

40% of Students had not even heard of the Rural Higher Institutes; 32% not heard of Association of Indian Unviersities and UNESCO Regional Office for Education in Asia, Bangkok; 27% not aware of Kendriya Vidyalaya Sangathan; 24% not conscious of ICSSR and 22% had no idea of the Examination Reform Units in Select Universities.

D.3.13: AWARENESS OF THE 12 CATEGORIES:

The particulars relating to M.Ed students' awareness of the Recent Developments in Education under 12 categories were placed in Table 4.57

Table 4.57: Average Percentage of M.Ed Students At different levels of Awareness of the 12 Categories of Recent Developments together with Weighted Arithmetic Mean Awareness and Rank Status:

Category No.	LEVEL OF AWARENESS					Total	Weighted Arithmetic mean	Rank Status
	0	1	2	3	4			
I	9.9	17.3	25.4	23.6	23.9	100.1	2.344	6
II	9.8	15.8	21.4	24.7	28.2	99.9	2.457	3
III	12.2	14.5	21.5	26.8	25.4	100.4	2.388	4
IV	18.7	16.0	23.5	22.1	19.8	100.1	2.082	10
V	13.3	15.3	20.1	24.6	26.7	100.0	2.360	5
VI	14.4	13.7	19.7	26.1	26.1	100.0	2.356	6
VII	5.6	8.5	20.2	30.5	35.2	100.0	2.811	2
VIII	5.9	8.7	16.4	25.7	43.3	100.0	2.917	1
IX	20.7	17.4	16.4	18.4	27.1	100.1	2.141	8
X	16.1	18.0	25.7	21.1	19.1	100.0	2.091	11
XI	23.6	16.5	20.3	19.8	19.8	100.0	1.957	12
XII	15.4	18.5	25.3	20.6	20.2	100.0	2.117	9
Total Scale	13.8	15.0	21.3	23.7	26.2	100.0	2.335	

With regard to category wise Awareness of Recent Developments, the weighted arithmetic means were computed and they were ranked from 1 to 12 according to their magnitude as shown in Table 4.57. The category, 'Education and the Community' got the first rank status with regard to Awareness and was followed by the categories 'Education and the Curriculum' and 'Education and Teachers' with second and third rank status respectively. The last but one rank was obtained by the category 'Educational Planning' and virtually the last ranked category was 'Educational Literature'.

D.3.14: CONCLUSION:

(1) At the terminal stage of the M.Ed course in the University of Madras, 13.8% of students were not at all aware of certain Recent Developments in Education (RDE) and 15% had first heard

of certain Recent Developments in Education and hence these two put together 28.8% of them were sub-standard and below the midvalue of the Scale of Awareness of Recent Developments in Education.21.3% of students were aware of something relating to certain Recent Developments in Education, 23.7% of students were aware of a good deal of certain Recent Developments in Education and 26.2% were aware completely of certain Recent Developments in Education.

(2) The analysis of M.Ed students' unawareness, category-wise had shown (Vide Table 4:57), that this ranged from 5.6% to 23.6%, 5.6% of the students were unaware of certain Recent Developments in Education in category VII (Education and the Curriculam) and 23.6% of them were in similar state with reference to category XI (Educational Literature).

(3) When the12 categories under Recent Developments in Education were ranked, the last three ranks, namely 10, 11 and 12 were secured by category IV (Educational Management and Administration), Category X (Educational Planning) and category XI (Educational Literature). Recent Developments in Education relating to Educational Planning and Educational Management and Administration were not possibly included in the formal M.Ed curriculum. At the post graduate stage of education at least, Student teachers should cultivate a wide range of awareness, far beyond their formal curriculum.

(4) The Weighted Arithmetic Men Awareness of the twelve categories ranged from 1.957 to 2.917, with the awerage remaining at 2.335 in the M.Ed sample while the highest scale value for awareness was 4.00. It was inferred that at the end of the M.Ed course, students awareness had not reached the level of 'good deal of awareness' for any category under Recent Developments in Education.

At the terminal stage of M.Ed course, the students of Madras University had done these self assessments with regard to Awareness of Recent Developments in Education. 13.8% of them had felt they were totally unaware of certain items; 15.0% were aware of mere existence of certain developments and innovations; 21.3% were aware of something relating to certain Recent Developments; 23.7% were aware of a good deal and 26.2% were completely aware of some Recent Developments in Education. The weighted average Awareness of M.Ed students was 2.335 against the maximum value of 4 in the Scale of Awareness.

D.4: COMPARATIVE STUDY OF AWARENESS OF RECENT DEVELOPMENTS IN EDUCATION OF B.Ed AND M.Ed STUDENTS;

On the basis of the weighted arithemetic mean of Awareness of B.Ed students, the 130 items of Recent Developments in Education were arranged in rank order, status 1 being conferred on the item with the highest mean awareness and the other items that followed had decreasing magnitude of mean awareness. This was presented in Appendix XXVIII. On a similar basis, the 130 items were arranged with reference to the sample of M.Ed students and this

this was presented in Appendix XXVIII.B. It was considered to view the top ten items of Recent Developments in Education in each sample as the most popular Recent Developments on the strength of student awareness. Similarly it was thought that the last ten items in rank order status based on the strength of student awareness might be viewed as the least popular Recent Developments in each sample.

TABLE.4.58: THE TOP TEN RECENT DEVELOPMENTS IN EDUCATION, BASED ON THE AWARENESS OF B.Ed STUDENTS OF THE MADRAS UNIVERSITY:

S.No. (1)	No. in RSARDE (2).	Recent Developments Item Statements. (3)	Weighted Mean Awareness	Rank Status (5)
1	1.5	Free and Compulsory Primary Education.	3.48	1
2	6.12	Internal Assessment	3.34	2
3	9.1	The University Education Commission Report (Dr. S.Radhakrishnan) 1949	3.31	3
4	1.4	National structure and pattern of education (10+2+3)	3.29	4.5
5	9.3	Indian Education Commission Report entitled, 'Education and National Development' (Dr. D.S.Kothari) 64-66	3.29	4.5
6	8.08	Community and Social Service by College students	3.28	6
7	6.06	Objective-type Tests	3.18	7
8	8.11	Parent Teacher Association	3.17	8
9	5.21	Teaching Models	3.15	9
10	8.07	Book Banks in Schools and Colleges.	3.13	11.5

The ten Recent Developments mentioned in Table 4.58 could be deemed to be the most popular developments in the dominatly pre-service B.Ed student population.

The items of Recent Developments in Education that got the first 10 rank status in terms of M.Ed students' awareness could be seen in Table 4.59

TABLE 4.59: THE TOP TEN RECENT DEVELOPMENTS IN EDUCATION, BASED ON THE AWARENESS OF M.Ed STUDENTS OF THE MADRAS UNIVERSITY.

S.No. (1)	No.in RSARDE (2)	Recent Developments - Item Statements. (3)	Weighted Mean Awareness (4)	Rank Status (5)
1	1.5	Free and Compulsory Primary Education	3.44	1
2	8.11	Parent Teacher Association	3.43	2
3	8.08	Community and Social service by College Students	3.38	3
4	2.01	In service Education and Training of Teachers	3.37	4
5	1.4	National Structure and pattern of education (10+2+3)	3.28	5
6	7.7	Vocationalisation of Higher Secondary Education	3.25	6
7	8.5	Evening College Courses (part-time education)	3.22	7
8	7.6	Work Experienceein school education	3.20	8
9	5.21	Teaching Models	3.18	9
10	7.8	The three Language formula	3.15	10

The ten developments in education presented in Table 4.59 could be taken as the most popular ones in the dominantly in-service M.Ed student sample. Among the top ten Recent Developments in education of which the B.Ed and M.Ed students had strong awareness as presented in Tables 4.58 and 4.59 the following five figured in both the student-groups and hence they could be viewed as the most popular Recent Developments:

(1) Free and Compulsory Primary Education.

(2) National structure and pattern of education

(3) Community and Social Service by College Students.

(4) Parent Teacher Association

(5) Teaching models.

The items of Recent Developments that got the last ten rank status in the B.Ed sample in terms of their awareness was placed in table 4.60 and given below:

TABLE:4.60: THE BOTTOM TEN RECENT DEVELOPMENTS IN EDUCATION, BASED ON THE AWARENESS OF B.Ed STUDENTS OF MADRAS UNIVERSITY.

S.No.	No. in RSARDE	Recent Developments Item Statements	Weighted Mean Awareness	Rank Status
(1)	(2)	(3)	(4)	(5)
1	9.4	Plowden Committee Report "Children and their Primary Schools," HMSO,	0.89	130
2	11.4	Taxonomy of Exucational Objectives. Vol.II(Affective Domain) (David R.Krathwohl et al)1964	0.96	129
3	6.01	Concepts of Formative and Summative Evalation (B.S.Bloom).	1.02	128

(1)	(2)	(3)	(4)	(5)
4	3.5	Ned Flanders' Interaction Analysis	1.04	127
5	11.3	Taxonomy of Educational Objectives. Vol.I Cognitive Domain(Bloom et al) 1958	1.07	126
6	5.14	Simulation	1.17	125
7	6.04	Taxonomy of Educational objectives.	1.19	124
8	5.18	Brain storming	1.24	123
9	6.03	Criterion referenced Testing and Examining	1.28	121.5
10	5.07	Closed Circuit Television for educational use	1.28	121.5

B.Ed students were least aware of the ten developments in education presented in Table 4.60. On further enquiry, it was gathered that none of the Colleges of Education in Madras University had Plowden Committee Report and Closed circuit Television. Only two or three Colleges had copies of Taxonomy of Educational Objectives, Volume I by B.S.Bloom et al and Volume II by R.Krathwohl et al in their own college libraries and hence the bulk of the student-population could not have used them as educational literature. Since some staff of the Colleges of Education themselves were not adequately familiar with the Taxonomy of Educational objectives during 1976-77, the students could not get sufficient awareness of the Taxonomy while studying Educational Evaluation subject.

On the basis of M.Ed students' awareness, the stems that got the last ten ranks were placed below in Table 4.61

TABLE.4.61: The bottom ten Recent Developments in Education, based on the Awareness of M.Ed students of Madras University.

S.No. (1)	No.in RSARD (2)	Recent Developments Item Statements. (3)	Weighted Mean Awareness (4)	Rank Status (5)
1	9.4	Plowden Committee Report on 'Children and their primary Schools'	1.02	130
2	6.03	Criterion-referenced Testing and Examining	1.18	129
3	12.08	Rural Higher Institutes	1.24	128
4	4.01	Educational management by Objectives	1.26	127
5	12.15	UNESCO Regional office fof Education in Asia, Bangkok	1.28	126
6	12.14	Association of Indian Universities, New Delhi	1.31	125
7	2.08	Professional Autonomy of teachers	1.34	124
8	11.4	Taxonomy of Educational objectives. Vol.II (Affective Domain) (David R.Krothwohl et al)1964	1.35	123
9	4.02	Human Relations and Communications in Management	1.38	122
10	12.04	Examination Reform Units in select Universities	1.46	121

M.Ed students were least aware of the ten items mentioned in Table 4.61. They were least aware of three educational agencies; The UNESCO Regional Office for Education at Bangkok, the Association of Indian Universities, New Delhi and Rural Higher Institutes. They were least aware of two items under Educational Evaluation namely concept of Criterion-referenced Testing and Examining andthe establishment of Examination Reform Unit in select Indian Universities. It was strange, they were least aware of Professional autonomy of teachers. Perhaps it might be due to the bureaucratic tradition in which these in-service M.Ed students were conditioned to work in the School Education Department.

When the least aware ten items of the B.Ed and the M.Ed student groups were compared, the following three were identified as commonly figuring in both

(1) Plowden Committee Report, "Children and their Primary Schools".

(2) Criterion-referenced Testing and Examining

(3) Taxonomy of Educational Objectives. Vol.II (Affective Domain).

The percentage of B.Ed and M.Ed students self-rating their awareness of 130 items under 12 categories of Recent Developments in Education at different levels in a five point scale was consolidated and presented in Table 4.62

TABLE 4.62: Percentage of B.Ed and M.Ed students marking different Levels of Awareness of the 12 categories of Recent Developments in Education and weighted arithmetic mean Awareness score of the categories and mean Utilisation of Sources of Information.

Category No.	B.Ed/ M.Ed	LEVEL OF AWARENESS 0	1	2	3	4	Total	Weighted Arithmetic mean awareness	Mean utilisation of sources in percentage
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	B.Ed	8.7	20.6	25.9	20.7	23.2	99.1	2.283	19.725
	M.Ed	9.9	17.3	25.4	23.6	23.9	100.1	2.344	19.550
2	B.Ed	11.4	20.0	25.0	23.7	20.0	100.1	2.209	18.020
	M.Ed	9.8	15.8	21.4	24.7	28.2	99.9	2.457	18.310
3	B.Ed	14.5	12.2	22.3	27.3	23.7	100.0	2.335	18.100
	M.Ed	12.2	14.5	21.5	26.8	25.4	100.4	2.388	18.080
4	B.Ed	15.4	20.6	25.8	21.3	16.9	100.0	2.037	18.220
	M.Ed	18.7	16.0	23.5	22.1	19.8	100.1	2.082	16.487
5	B.Ed	16.2	17.8	22.0	22.3	22.1	100.4	2.171	18.268
	M.Ed	13.3	15.3	20.1	24.6	26.7	100.0	2.360	18.100
6	B.Ed	15.2	15.6	21.9	23.3	23.9	99.9	2.252	18.090
	M.Ed	14.4	13.7	19.7	26.1	26.1	100.0	2.356	17.400
7	B.Ed	4.2	10.8	19.0	29.7	36.3	100.0	2.829	24.538
	M.Ed	5.6	8.5	20.2	30.5	35.2	100.0	2.811	24.637
8	B.Ed	7.4	10.7	19.2	26.6	36.2	100.1	2.735	21.775
	M.Ed	5.9	8.7	16.4	25.7	43.3	100.0	2.917	24.408
9	B.Ed	22.4	13.4	12.7	18.2	33.3	100.0	2.266	15.825
	M.Ed	20.7	17.4	16.4	18.4	27.2	100.1	2.141	15.925
10	B.Ed	14.6	21.5	25.3	22.0	16.7	100.1	2.052	15.757
	M.Ed	16.1	18.0	25.7	21.1	19.1	100.1	2.091	17.000
11	B.Ed	29.8	16.0	19.5	18.8	16.0	101.1	1.753	12.575
	M.Ed	23.6	16.5	20.3	19.8	19.8	100.0	1.957	14.773
12	B.Ed	18.5	23.2	24.6	19.2	14.5	100.0	1.873	12.573
	M.Ed	15.4	18.5	25.3	20.6	20.2	100.0	2.117	18.107
TOTAL SCALE	B.Ed	14.9	16.9	21.9	22.8	23.6	100.1	2.235	17.789
TOTAL SCALE	M.Ed	13.8	15.0	21.3	23.7	26.2	100.0	2.335	18.503

In Table 4.62, the percentage of B.Ed and M.Ed students of Madras University, marking different levels of awareness (from 0 to 4)of the twelve categories of Recent Developments in Education, together with weighted arithmetic mean awareness scores for the categories were presented. As would be expected, the mean Awareness of M.Ed students was higher than the mean Awareness of B.Ed students in all but two categories. B.Ed students had slightly higher mean awareness of seventh and nineth categories, namely (i) Education and the curriculum and (ii) Educational Reports.

In table 4.62 it was found, that a larger percentage of B.Ed students had reported at lower levels of awareness and a larger percentage of M.Ed students were at the higher two levels of the five point scale of awareness. Taking the entire Rating Scale of Awareness of the 130 items of Recent Developments in Education, in the B.Ed group, 14.9% had been found at zero level of awareness for some items of Recent Developments, while it was 13.8% in the case of the M.Ed stdents. 23.6%of B.Ed students and 26.2% of M.Ed students were at the highest point of the scale with regard to awareness. On an average, M.Ed students had a weighted mean awareness of 2.335-slightly higher than 2.235 of B.Ed group while the theoretical maximum for the scale of awareness was 4.

An attempt was made to compare the rank status of the 12 categories of Recent Developments in Education based on the weighted mean awareness of the B.Ed and the M.Ed students. Earlier the rank status of Awareness of the 12 categories for the B.Ed and the M.Ed sample were presented separately in Table 4.44 and Table 4.57 respectively.

TABLE.4.63: RANK STATUS OF AWARENESS OF THE TWELVE CATEGORIES OF RECENT DEVELOPMENTS IN EDUCATION AMONG B.Ed AND M.Ed STUDENTS AND RANK ORDER CORRELATION.

Category No.	Category Description.	Rank Status in B.Ed group	Rank Status in M.Ed group	D	D^2
(1)	(2)	(3)	(4)	(5)	(6)
1.	Education and the State	4	6	-2	4
2.	Education and the Teachers	7	3	4	16
3.	Educational Psychology	3	4	-1	1
4.	Educational Management and Administration	10	10	0	0
5.	Methods of Teaching and Learning	8	5	3	9
6.	Educational Evaluation	6	6	0	0
7.	Education and the curriculum	1	2	-1	1
8.	Education and the community	2	1	1	1
9.	Educational Reports	5	8	-3	9
10.	Educational Planning	9	11	-2	4
11.	Educational Literature	12	12	0	0
12.	Educational Agencies	11	9	2	4

$$= 1 - \frac{6 \times \Sigma D^2}{N(N^2 - 1)}$$

$$= 1 - \frac{6 \times 49}{12\ (144-1)} = 0.83$$

The rank order correlation between the B.Ed and the M.Ed students regarding Awareness of the twelve categories as presented in Table 7.32 was 0.83 and this was viewed as very high. Closer examination of the data yielded the following interesting interpretations:

(i) Both the groups seemed to be aware of a good deal fegarding Educational developments concerning the curriculum, the community and Educational Psychology, judged by the rank status accorded to these categories.

(ii) Both the groups showed a low level of awareness regarding Recent Developments in Educational literature, as well as Educational Management and Administration as could be seen from the low rank status of awareness accorded to them. (iii) There were certain interesting differences between the two groups (a) The M.Ed group got rank 1 for Awareness of Developments concerning the community because the group consisted mostly of in-service teacher-candidates who had close association with the community compared with the B.Ed group, consisting mostly of pre-service candidates who got rank2 for their awareness in this respect. (b) Based on the same logic, the awareness of M.Ed students relating to Recent Developments concerned with Teachers was distinctly higher than the B.Ed group and therefore they got rank 3 for their awareness while the B.Ed group got only 7th rank for this category (c) Though both the B.Ed and M.Ed groups had rather low levels of awareness relating to the Educational Agencies, the M.Ed group as an older and more experienced group in teaching got a slightly better rank (9), while the B.Ed group got the last but one (11) rank for this category.

CONCLUSION:

(1) While concluding the Comparative analysis and discussions of the Awareness of Recent Developments in Education of the B.Ed and M.Ed student samples, it should be pointed out, the there were two items of Recent Developments in Education for which Item-Mean Awareness was below 1 in the B.Ed sample, while there was no such item in the M.Ed sample. There were 43 and 41 items under Recent Developments in Education in B.Ed and M.Ed samples respectively getting Item-Mean Awareness ranging from 1.00 to 1.99 (a state of w awareness higher than merely knowing the existence of items under Recent Developments in Education) There were 66 and 65 items under Recent Developments in B.Ed and M.Ed samples respectively for which Item-Mean Awareness ranged from 2.00 to 2.99 (a condition of awareness of knowing something or more regarding items of Recent Developments. There were 19 and 24 items under Recent Developments in B.Ed and M.Ed samples with Item-Mean Awareness ranging from 3.00 and above (a level of awareness higher than 'a good deal'). The M.Ed students had very slightly better Awareness of Recent Developments in Education than the B.Ed students and the 'weighted' Mean Awareness of the M.Ed students for the entire Scale of Awareness of Recent Developments in Education was 2.335 while it stood at 2.235 for the B.Ed sample.

(2) When the top ten and bottom ten items under Recent Developments in Education based on weighted Mean Awareness of the items were considered, in the B.Ed and M.Ed samples the average weighted Awareness for the top ten items were 3.26 and 3.29 and for the

bottom ten items were 1.11 and 1.28 respectively. The M.Ed aample had very slight edge over the B.Ed group.

(3) When the Mean Awareness of the twelve categories under Recent Developments in Education was considered and the B.Ed and M.Ed samples were compared, it was established that the M.Ed students excelled the B.Ed students in ten out of the twelve categories, though the differences were small.

(4) Finally it might be concluded with fhe observation that the awareness of the M.Ed students was slightly higher than that of the B.Ed students though the difference was not statistically significant. The awareness of Recent Developments should be higher, than what it was, at both the B.Ed and M.Ed levels. The University of Madras might have to recognise this problem and undertake further curriculum development of these two courses towards this objective.

D.5: UTILISATION OF THE SOURCES OF INFORMATION BY THE B.Ed STUDENTS:

The following ten Sources of Information were provided in the checklist, and the students checked as to which ones among them they utilised for each one of the 130 items of Recent Developments in Education:

1. College faculty-formally.
2. College faculty-informally.
3. Class-mates.
4. School Contacts.
5. College library reading.

6. Public Library Reading.

8. The Press.

8. The Radio.

9. The T.V.

10. Others.

In this section, the data relating to B.Ed student-utilisation of the Sources of Information on Recent Developments was analysed both category-wise and item-wise.

D.5.1: EDUCATION AND THE STATE.

The Percentage of B.Ed students utilising the ten sources with regard to the items under category I, Education and the state were placed in Table 4.64. Besides Mean Utilisation of Sources of Information and weighed Mean Awareness of the items were also included in the same Table.

TABLE 4.64:

Percentage of B.Ed Students utilising Ten Sources of Information for Awareness-knowledge of 'Education and the State.'

Item No.	Ten Sources of Information										Total	Mean Utilisation of 51 %	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.1	41	14	13	8	33	10	16	15	2	8	160	16.0	1.64
1.2	31	14	12	10	23	11	25	16	2	9	153	15.3	1.75
1.3	42	15	16	23	27	12	25	17	3	15	195	19.5	2.14
1.4	53	25	25	27	35	18	50	38	8	22	301	30.1	3.29
1.5	67	21	17	25	40	18	28	20	3	19	258	25.8	3.48
1.6	50	17	14	13	32	10	19	9	1	12	177	17.7	2.10
1.7	42	17	11	9	26	9	18	7	1	11	151	15.1	1.67
1.8	47	21	16	13	29	9	22	10	2	14	183	18.3	2.24

(1) Under the first category, Education and The State, there were eight items of recent developments. With regard to National Policy on Education 1968, students gained their awareness(1.64) by making a 16.0% mean Utilisation of the different Sources of Information. 41% students utilised the college faculty formally in a lecture tutorial session, 14% utilised the college faculty informally, 33.0% utilised college library etc., for getting their awareness and knowledge.

(2) Their mean awareness of the second item, 'Education being placed in the Concurrent List of the constitution, 1976', was 1.75 and they made 15.3% mean Utilisation of Sources of Information.

(3) Their mean awareness of the third item was 2.14 for which they had made 19.5% mean Utilisation of the Sources of Information. 42% of them utilised college faculty formally and 27% utilised college library for their awareness-knowledge.

(4) Their mean awareness of 'National Structure and Pattern of Education (10+2+3)was 3.29 and they had made 30.1% mean Utilisation of the Sources of Information. 53% of the students utilised the college faculty formally, 50% had utilised the Press and 35% of them had utilised the college library etc. to gain their awareness-knowledge of that item. 8% had utilised Television towards this. Among the eight items under 'Education and the State', the students had made the maximum Utilisation of Sources of Information regarding the fourth item.

(5) On free and Compulsory Primary Education, their mean Awareness score was 3.48 and mean Utilisation of sources was 25.8%. 67% of them utilised the college faculty formally, and 40% utilised the college library in this respect besides the other sources.

(6) On NCERT'S National Talent Search Scheme they got 2.10 as weighted mean awareness score and 17.7% as mean Utilisation of Sources of Information.

(7) B.Ed students got a mean awareness soore of 1.67 and 15.1% mean Utilisation of Sources relating to NCERT'S National Rural Talent Search Scheme.

(8) B.Ed students secured a mean awareness score of 2.24 and 18.3% mean Utilisation of Sources relating to NCEPT'S National Science Talent Search Scheme.

D.5.2: EDUCATION AND THE TEACHERS:

The particulars such as percentage of students using different Sources for each item, mean utilisation and weighted mean awareness of the items relating to category II were given in Table 4.65

Percentage of B.Ed Students utilising Ten Sources of Information for Awareness-Knowledge of EDUCATION AND TEACHERS:

Item	Ten Sources of Information										Total	Mean Utilisation in percentage	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2.01	57	25	16	32	36	14	22	15	3	23	243	24.3	3.08
2.02	49	25	16	26	26	10	22	13	2	23	212	21.2	2.74

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2.03	55	18	14	13	28	8	11	8	1	10	166	16.6	2.30
2.04	47	23	10	11	25	8	17	11	2	14	168	16.8	2.01
2.05	46	19	7	12	23	5	16	7	1	9	145	14.5	1.49
2.06	64	26	14	22	30	7	11	7	1	12	194	19.4	2.61
2.07	36	17	14	35	17	6	18	7	1	17	168	16.8	2.11
2.08	36	16	11	16	21	6	16	8	0	11	141	14.1	1.47
2.09	43	20	13	17	21	7	17	8	1	16	163	16.3	1.76
2.10	52	25	16	28	29	10	14	11	4	13	202	20.2	2.56

(1) As seen in Table 4.65 at the end of the B.Ed Course, students of the University of Madras got a mean Awareness score of 3.08 and, 24.3% mean Utilisation of Sources of information relating to Inservice education and training of teachers'.

(2) They got a mean Awareness score of 2.74 and 21.1% mean Utilisation of Sources of Information relatint to 'Summer Institutes for teachers'.

(3) They got a mean Awareness score of 2.30 and 16.6% mean Utilisation of Sources of Information regarding 'Action Research by Teachers'.

(4) With regard to the 'National programme of Seminor Readings for teachers and teacher educat/ors by the NCERT', they had a mean Awareness score of 2.01 and 16.8% mean Utilisation of the Information-sources.

(5) On 'Experimental and Developmental projects by teachers, supported with the NCERT funds' their mean Awareness score was 1.49 and their mean Utilisation of Information-Sources was 14.5 %.

(6) In the matter of 'Evaluation of Teaching', their mean Awareness score was 2.61 and their mean Utilisation of Information sources was 19.4%. 64% of students had utilised the college faculty (formally) in this regard for learning this development.

(7) On 'Panel Inspection of Schools in Tamil Nadu' their mean Awareness was 2.11 and the mean Utilisation of Sources of Information was 16.8%, rather low for a development associated with their own State. In the matter of Sources of Information, 35% of them had utilised their school contacts during the Teaching Practice for developing their awareness-knowledge.

(8) With regard to 'Professional Autonomy of Teachers', their mean Awareness score was 1.47 and their mean Source-utilisation was 14.1%-both were low.

(9) They obtained mean Awareness of 1.76% and mean Utilisation of Sources of Information of 16.3% concerning Teachers' centre (like the one in SCERT, Madras).

(10) They got a weighted mean Awareness of 2.56 and 20.2% mean Utilisation of Information-sources in connection with 'Teacher Aides'. 28% had heard of Teacher Aides through their school-contacts besides the other Sources of Information.

D.5.3: EDUCATIONAL PSYCHOLOGY:

The detailed particulars concerning B.Ed students' Utilisation of sources relating to items under Educational Psychology could be located in Table 4.66.

TABLE.4.66: PERCENTAGE OF B.Ed STUDENTS UTILISING THE TEN SOURCES OF OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATIONAL PSYCHOLOGY.

Item No.	Sources of Information of Recent Developments										Total	Mean utilisation %	Weighted mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
3.1	58	22	16	18	30	9	8	6	1	11	179	17.9	2.10
3.2	67	22	16	18	39	8	9	7	2	11	199	19.9	2.73
3.3	68	26	17	19	41	11	13	9	3	16	223	22.3	2.87
3.4	61	23	18	28	32	10	9	8	1	13	203	20.3	2.89
3.5	35	12	6	8	18	6	6	2	1	7	101	10.1	1.04

(1) Regarding 'Flexible Grouping of Pupils', students got a weighted mean Awareness of 2.10, and 17.9% mean Utilisation of Sources of Information.

(2) Regarding 'Achievement Motivation', their weighted mean awareness score was 2.73 and 19.9% was the mean Utilisation of Information Sources. It was remarkable that 67% of the students knew of Achievement Motivation through the College faculty. formally and 22% of them knew of it from the college faculty informally. This was well supported by Utilisation of other sources, notable amoung them was college library reading(41%).

(3) With regard to 'Guidance and Counselling' their weighted mean Awareness score was 2.87 and 22.3% was the mean Utilisation of Sources of Information.

(4) For 'Organisational Climate', their weighted item mean Awareness was 2.89 and 20.3% was the mean Utilisation of Information Sources. The college faculty formally, college library reading and the school contacts of the students made notable contribution to their awareness-knowledge of Organisational Climate.

(5) Their awareness as well as Utilisation of Sources of Information was very poor regarding Ned Flanders' Interaction Analysis, because the weighted mean Awareness of the item was only 1.04 and the percentage of Utilisation of Sources of Information was only 10.1. Even the college faculty had been formally utilised for knowing this item only by 35% of students.

D.5.4: EDUCATIONAL MANAGEMENT AND ADMINISTRATION:

The particulars pertaining to B.Ed students' Utilisation of Sources of Information on Recent Developments in Educational Management and Administration could be seen in Table 4.67.

TABLE.4.67: PERCENTAGE OF B.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATIONAL MANAGEMENT AND ADMINISTRATION:

Item No.	Sources of Information on Recent Developments.										Total	Mean utilisation	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
4.01	43	17	10	14	23	5	13	8	1	12	146	14.6	1.49
4.02	39	18	14	19	28	9	16	9	2	16	170	17.0	1.81
4.03	39	18	11	18	24	8	13	7	2	13	153	15.3	1.58
4.04	37	21	13	11	21	7	16	8	2	13	149	14.9	1.58
4.05	42	21	11	16	29	9	18	11	2	14	173	17.3	1.87

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
4.06	35	11	9	14	21	7	17	9	2	11	136	13.6	1.29
4.07	56	25	17	31	36	16	37	22	2	23	265	26.5	3.13
4.08	36	20	18	34	21	10	27	14	2	25	207	20.7	2.47
4.09	35	18	16	29	17	6	17	8	2	15	162	16.2	1.81
4.10	38	17	14	32	18	8	16	9	1	19	172	17.2	2.00
4.11	43	21	18	37	21	9	25	15	2	25	216	21.6	2.62
4.12	38	23	16	11	21	10	34	17	3	22	195	19.5	2.19
4.13	35	20	10	15	20	7	20	11	1	17	156	15.6	1.50
4.14	59	32	20	15	30	14	34	21	5	26	256	25.6	3.09
4.15	44	21	15	21	23	10	15	9	3	16	177	17.7	2.01

AS SHOWN IN TABLE 4.67.

(1) B.Ed students of the Madras University had a mean Awareness of 1.49 and 14.6% mean Utilisation of Sources of Information regarding 'Educational Management by objectives'. Besides the college faculty (formally)(43%), the students had notably utilised college library reading (23%) and the college faculty informally (17%).

(2) B.Ed students had a mean Awareness score of 1.81 and 17.0% mean Utilisation of Sources of Information regarding 'Human Relations and Communications in Management'. Notably they had utilised college faculty formally (39%), College library reading (24%) and school contacts (19%)

(3) Regarding 'Assessment of Organisational Climate of Educational Institutions', their weighted mean Awareness score was 1.58 and their mean Utilisation of information-sources was 15.3%.

(4) Regarding 'College Complex', their weighted mean Awareness score was 1.58 and their mean Utilisation of Information-sources was 14.9%.

(5) They secured a mean Awareness score of 1.87 and mean Utilisation of Information-Sources of 17.3% relating to 'Quality Control in Education'.

(6) On 'Management of Educational Innovations', B.Ed students secured a mean Awareness of 1.29 and mean Utilisation of Information-Sources was 13.6%. These two measures were the lowest in the fourth category having 15 items of Recent Developments. The percentage of the students utilising college faculty formally, college library reading and the Press was 35, 21 and 17 respectively.

(7) Regarding 'Nationalisation of School Text-books', they obtained a mean Utilisation of 26.5% and a weighted mean Awareness of 3.13

(8) On 'Shift system for schools', they secured a weighted mean Awareness of 2.47 and mean Utilisation of Information Sources was 20.7%. The percentage of student utilising college faculty formally, school contacts, the Press and other sources was 36, 34, 27 and 25 respectively.

(9) For the School Complex Programme' they had a mean Utilisation of 16.2%. The percentage of students utilising school contacts in this regard was 29, and class-mates 16.

(10) Regarding 'Flexible Scheduling of School work', they had taken a weighted mean Awareness score of 2.00 and mean Utilisation of Sources of Information was 17.2%. 32% of B.Ed students had learnt this item through their school contacts.

(11) They obtained a mean Awareness score of 2.62% and mean Utilisation of Information Sources was 21.6% regarding 'Central-kitchens for Mid-day Meals programme'. 37% had utilised their school contacts for gathering their awareness-knowledge regarding this item.

(12) They got a mean Awareness score of 2.19 and 19.5% mean Utilisation of Information-sources regarding 'Autonomous status to certain colleges' 34% of students had utilised the Press for getting awareness-knowledge regarding the item.

(13) They secured a mean Awareness score of 1.50 and 15.6% of mean Utilisation of Sources relating to the item, 'Decision-making in Educational Management'. 20% had utilised the college-faculty informally, college library reading and the Press.

(14) They secured a mean Awareness of 3.09 for the item, 'Semester system of Course Organisation' and got 25.6% of mean Utilisation of Sources. 34% had utilised the Press, 32% had utilised the college faculty informally, while 59% had utilised the college faculty formally in this regard.

(15) With regard to a Mixed ability grouping of pupils' they got a mean awareness of 2.01 and 17.7% mean Utilisation of the Sources. Only 21% had got their awareness through the school contacts in this respect.

METHODS OF TEACHING AND LEARNING:

The pattern of Utilisation of the Sources of Information of the B.Ed students regarding Recent Developments in Methods of Teaching and Learning could be seen in Table 4.68.

TABLE.4.68: PERCENTAGE OF B.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF METHODS OF TEACHING AND LEARNING:

Item	Sources of Information on Recent Developments.										Total	Mean utilisation	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
5.01	36	18	13	27	19	6	22	15	3	16	175	17.5	2.02
5.02	42	22	17	34	21	10	30	43	8	25	252	25.2	2.75
5.03	62	26	15	26	32	9	15	12	7	19	223	22.3	3.07
5.04	40	22	14	15	18	7	21	11	23	16	187	18.7	2.21
5.05	60	23	13	16	27	7	11	6	4	15	182	18.2	2.40
5.06	45	19	11	11	20	7	11	7	3	12	146	14.6	1.57
5.07	37	16	12	10	18	7	11	6	6	11	134	13.4	1.28
5.08	40	16	12	10	21	9	12	8	2	12	142	14.2	1.36
5.09	51	26	23	20	32	12	15	10	3	22	214	21.4	2.58
5.10	63	27	16	19	30	11	13	11	2	16	208	20.8	2.57
5.11	55	23	11	14	30	9	11	8	3	12	176	17.6	2.12
5.12	58	24	14	17	27	8	9	7	1	11	176	17.6	2.16
5.13	53	23	12	14	27	10	10	7	2	13	171	17.1	1.91
5.14	40	17	11	9	20	9	8	7	2	8	131	13.1	1.17
5.15	57	26	20	22	30	10	15	17	7	20	224	22.4	2.58
5.16	56	28	13	15	23	7	11	9	3	14	179	17.9	2.07
5.17	49	23	15	14	28	13	13	7	1	20	183	18.3	2.26
5.18	36	16	11	10	19	6	9	4	1	10	122	12.2	1.24
5.19	52	25	14	11	24	6	13	6	1	14	166	16.6	1.86
5.20	71	34	17	17	31	9	14	8	6	21	228	22.8	2.99
5.21	71	32	21	29	32	10	12	8	3	17	235	23.5	3.15
5.22	53	23	14	14	22	6	11	6	1	15	165	16.5	2.08

With regard to Recent Developments in Methods of Teaching and Learning, B.Ed students of the Madras University secured mean Utilisation of the different Sources of Information ranging from 12.2% to 25.2% as seen in Table 4.68. The pattern of their Utilisation of the different Sources was such that college faculty (formally) as a Source dominated throughout. 'College library reading' occupied usually a second place, and occasionally yielded its place for 'School Contacts' or 'College faculty informally' or 'The Press', depending on the item concerned.

(1) Regarding 'Mobile Science Laboratory for Schools', their mean Awareness was 2.02 and mean Sources-Utilisation was 17.5%. 27% had utilised school contacts for gaining their awareness-knowledge.

(2) In the case of 'A.I.R.Prggramme use in Schools', their mean Awareness was 2.75 and mean Sources-Utilisation was 25.2%. It was interesting that 43% of them got their awareness-knowledge regarding this item through the Radio itself.

(3) In the matter of 'Demonstration method', their mean Awareness was 3.07 and mean Sources-Utilisation was 22.3%.

(4) For 'Educational Television (ETV)', their mean Awareness was 2.21 and mean Sources-Utilisation was 18.7%. It was interesting to note that next to the Source of 'College faculty formally', they had used the 'TV' to get to know that item because 23% had utilised it.

(5) They secured a mean Awareness of 2.40 and 18.2% mean Sources-utilisation with regard to 'Overhead Projector'.

(6) They got a mean Awareness of 1.57 and 14.6% mean Sources-utilisation regarding Language Laboratory.

(7) They obtained a mean Awareness of 1.28 and 13.4% mean Sources-utilisation regarding 'Closed circuit Television for Educational Use. Both awareness and Utilisation of Sources was low.

(8) They had a mean Awareness of 1.36 and 14.2% mean Sources-utilisation relating to the item, 'Teaching Machine'.

(9) With regard to 'Independent Study' an item focussed on the learner, their mean Awareness was 2.58 and the mean Utilisation of Sources was 21.4%.

(10) Regarding 'Activity based Method of Teaching and Learning', their weighted mean Awareness was 2.57 and mean Sources-utilisation was 20.8%.

(11) In the case of 'Discovery learning', their mean Awareness was 2.12 and mean Sources-utilisation was 17.6%.

(12) On 'Remedial Teaching', their mean awareness was 2.16 and mean Sources-utilisation was 17.6%.

(13) For 'Resources-based Teaching and Learning', their mean Awareness was 1.91 and mean Sources-utilisation was 17.1%

(14) They were least aware of 'Simulation' because they had a mean of 1.17 against the theoretical maximum of 4. Correspondingly their Utilisation of Sources also was very limited, the mean being 13.1% for that item.

(15) In the case of 'Educational Games', their mean awareness was 2.58 and mean Sources-utilisation was 22.4%. They had utilised multiple sources to gather their knowledge on that item.

(16) On 'programmed Instruction', their mean Awareness was 2.07 and the mean Sources-utilisation was 17.9%.

(17) On 'Open-shelf library (open-access)', they got mean Awareness of 2.26 and mean Sources-utilisation was 18.3%. 28%of students got to know of this item through college library reading and 13% through public library reading.

(18) In the matter of 'Brain-Storming', they secured a mean Awareness of 1.24 and mean Sources-utilisation of 12.2%. Both their Awareness and Sources-utilisation were limited. Even the Source of college faculty was utilised to a limited extent at a time when social methods of learning were being promoted.

(19) In the matter of 'Panel Discussions', they had a mean Awareness of 1.86 and mean Sources-utilisation of 16.6%. The contribution of mass-media sources was limited in this respect.

(20) They secured a mean Awareness of 2.99 and mean Sources-utilisation of 22.8% on 'Micro-teaching'. 71% students had developed their awareness-knowledge through the college faculty informally. The contribution of the college faculty, both formally and informally, considered either separately or taken together was the highest for the students' awareness-knowledge of Micro-teaching. That marked the level to which a college faculty could contribute for building the knowledge of students regarding Recent Developments in Education.

(21) On 'Teaching Models', students obtained a mean Awareness of 3.15, the highest level they touched among the twenty two items of Recent Developments under the category of Methods of Teaching and Learning. Their mean Sources-utilisation was 23.5%. The Utilisation of inter-personal Sources (the first four Sources)of information was the highest for this item, in the list of 130 items.

(22) With regard to 'Team Teaching' their mean Awareness was 2.08 and mean Utilisation of Information-sources was 16.5%.

D.5.6: EDUCATIONAL EVALUATION:

The pattern of Utilisation of Sources of Information by B.Ed students for their Awareness-knowledge Recent Developments in Educational Evaluation could be read from Table 4.69.

TABLE.4.69: PERCENTAGE OF B.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATIONAL EVALUATION:

Item No.	Sources of Information on Recent Developments.										Total	Mean Utilisation	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
6.01	41	15	11	10	19	5	8	4	0	6	119	11.9	1.02
6.02	65	26	13	20	29	7	11	5	1	14	191	19.1	2.44
6.03	43	16	10	11	18	4	9	5	0	8	124	12.4	1.28
6.04	46	17	8	10	22	7	8	4	10	8	140	14.0	1.19
6.05	60	25	15	21	26	7	13	7	1	19	194	19.4	2.41
6.06	69	31	17	27	34	12	16	9	2	20	237	23.7	3.18
6.07	65	30	17	25	29	9	12	7	1	15	210	21.0	2.83

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
6.08	64	28	15	20	27	7	11	7	1	11	191	19.1	2.76
6.09	63	24	13	22	25	7	12	6	1	12	185	18.5	2.58
6.10	41	20	16	13	22	10	18	6	1	26	173	17.3	2.15
6.11	65	28	13	22	23	8	13	5	1	15	193	19.3	2.57
6.12	73	34	22	17	27	11	22	9	3	23	241	24.1	3.34
6.13	52	27	15	15	21	8	16	7	1	16	178	17.8	2.31
6.14	48	23	14	17	22	6	22	10	1	22	185	18.5	2.27
6.15	57	25	11	17	24	7	14	7	2	16	180	18.0	2.29
6116	46	21	13	12	20	9	25	10	1	16	173	17.3	1.97
6.17	51	20	11	10	23	7	14	6	1	12	155	15.5	1.63
6.18	61	28	14	16	24	9	20	9	1	18	200	20.0	2.57
6.19	57	24	11	15	23	7	13	8	1	12	171	17.1	2.20
6.20	58	23	11	17	22	6	15	10	2	14	178	17.8	2.08

(1) AS shown in Table 4.69 with regard to 'Bloom's concepts of Formative and Summative Evaluation; B.Ed students of the Madras University had an extremely limited Awareness (weighted arithmetic mean 1.02) and also made limited Utilisation of Sources of Information (mean Utilisation = 11.9%) Even the college faculty as a formal source of information had made only less than average contribution to their awareness-knowledge, because only 41% students had only availed of college faculty (formally)as a source. The contribution from Mass Hedia Sources was also poor.

(2) Regarding 'Objectives-based Testing and Examining', their weighted mean Awareness was 2.44 and 17.1% was their mean Utilisation of Sources of Information.

(3) In the case of 'Criterion-referenced Testing and Examining', students had low level of Awareness (1.28) and limited Utilisation of

Sources (12.4%).

(4) On 'Taxonomy of Educational Objectives by B.S.Bloom et al', their mean Awareness was poor (1.19) and Sources utilisation was 14.0%.

(5) For 'Improved Question Paper construction', their mean Awareness was 2.41 and Sources-utilisation was 19.4%. It was interesting to note, that 21% students had come to know of this through their school contacts, suggesting that this practice was prevalent in certain schools.

(6) In the matter of 'Objective-type Tests', students were aware of a good deal (3.18) and their Sources-utilisation was also considerable (23.7%). It was interesting to note that 27% students used school contacts while 16% used the Press. This indicates that the Press also was giving currency to this development in education. It was not surprising to see that college faculty and the college library were found such powerful Sources in this respect.

(7) Their Awareness of 'Structured-essay-type questions' was above average (2.83) and the mean of Sources-utilisation was 21.0%.

(8) Their Awareness of 'Diagnestic Tests' was above average (2.76) and 19.1% was the mean Utilisation of sources.

(9) Their mean Awareness of 'Unit Tests' was 2.58 and the mean Utilisation of sources of Information was 18.5%.

(10) With regard to (Open-book examinations', their mean Awareness was a little more than 'something' (2.15) and their

mean Utilisation of Sources was 17.3%. In this connection, 26% of B.Ed Students had utilised certain other sources, not included in the instrument used in the research.

(11) They secured a mean Awareness of 2.57 regarding 'Progressive and Cumulative Assessment', and their mean Utilisation of Sources was 19.3%. The pattern of Utilisation of Sources was typical for this item.

(12) They obtained a mean Awareness score of 3.34, on 'Internal Assessment', and this was their highest score among the twenty items under the category 'Educational Evaluation'. Their mean Utilisation of Sources of Information was 24.1% constituting the highest percentage for any item in that category. 22% of them had learnt on the item through their class-mates and the Press while 73% and 34% of students had used the College faculty formally and informally for gaining their awareness-knowledge.

(13) With regard to 'Question/Item Banking, their mean Awareness was only 2.31 and the mean Utilisation of Sources was 17.8%.

(14) Regarding 'Central Valuation of Examination Answer-scripts their mean Awareness was 2.27 and their mean Sources utilisation was 18.5%. It was significant that 22% of them had come to know regarding this item through the newspapers and other Sources not mentioned in the CLUSI.

(15) For 'Increased Objectivity in Marking Answer-scripts by using a scoring key etc.,' their mean Awareness and mean Utilisation of Sources were respectively 2.29 and 18.0%.

(16) With regard to 'Compartmentalisation of Examination', they were aware of less than something, the mean Awareness score being 1.97. They made 18.5% mean Utilisation of Sources of Information in this regard. It was interesting to note how topical and current this theme was in newspaper', when it was found one-fourth of students had utilised that channel of communication for their awareness-knowledge.

(17) Students had a poor mean Awareness score (1.63) for the item, 'Course Evaluation'. Their mean Utilisation of sources was 15.5%.

(18) In the case of 'Awarding Grades (either independently or based on percentage)' they secured a mean Awareness score of 2.57 and their mean Utilisation of sources was 20.0%.

(19) Regarding the 'Use of the technique of Scaling of Marks', their mean Awareness and mean Utilisation of Sources were respectively 2.20 and 17.1%

(20) On'Use of Standard Scores',their mean Awareness was just something (2.08) and their Utilisation of Sources of Information had a mean of 17.8%.

D.5.7: EDUCATIONA AND THE CURRICULM:

The Utilisation of the Sources of Information for gaining Awareness-knowledge of Recent Developments in the curriculum by the B.Ed students had been presented in Table 4.70

TABLE:4.70: PERCENTAGE OF B.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATION AND THE CURRICULUM:

Item No.	Sources of Information on Recent Developments.										Total	Mean utilisation.	Weighted mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
7.1	66	28	18	30	38	13	29	21	7	24	274	27.4	3.10
7.2	52	25	12	15	32	16	28	17	4	19	220	22.0	2.33
7.3	59	25	13	14	33	11	21	12	1	16	205	20.5	4.46
7.4	68	28	16	17	34	13	26	15	4	21	242	24.2	3.08
7.5	58	26	14	12	32	16	30	20	4	25	237	23.7	2.66
7.6	62	27	17	28	34	14	26	17	4	22	251	25.1	3.03
7.7	63	31	15	21	35	13	32	15	4	21	250	25.0	2.90
7.8	64	31	17	19	40	19	39	24	4	27	284	28.4	3.13

(1) As shown in Table 4.70 students obtained a weighted mean Awareness of 3.10 of 'Compulsory Physical and Health Education' and their mean Utilisation of Sources was 27.4% the highest recorded for any item among the 130 items of Recent Developments in Education. Since the Scheme of Compulsory Physical and Health Education was first introduced in Tamil Nadu in recent years, students had scope for being sensitised to this through different sources. 30% students had used the school contacts, 29% used the daily newspapers, 21% used the Radio, 7% used the T.V. and 24% used other sources not included in the checklist. Besides the college faculty and the library had been liberally utilised in this respect.

(2) On 'UNESCO-UNICEF' Science', theif mean Awareness was only 2.33 and mean Utilisation of Sources was 22.0% was 22.0%

(3) On 'Integrated Curriculum', their mean Awareness and mean Sources-utilisation were respectively 2.46 and 20.5%

(4) Regarding 'Nutrition Education', theif awareness was a good deal high (3.08) and their Utilisation of Sources was also relatively high (24.2%). 26% students had taken advantage of newspapers for learning this item.

(5) Students obtained a mean Awareness of 2.66 on Population Education-rather low when the whole national effort at this was considered. However they had made a mean Utilisation of Sources of Information to the extent of 23.7%. Thirty and twenty percent of students had obtained their awareness through the channels of daily newspapers and the Radio respectively.

(6) On 'Work Experience in School Education', their mean Awareness was good (3.03) and their mean Utilisation of Sources of Information was 25.1%. It was interesting that 28% gained awareness through the school contact, 26% from the daily newspapers and 17% from the A.I.R.

(7) Mean Utilisation of Sources of Information was 25% for 'Vocationalisation of Higher Secondary Education'. 63% of Students utilised the staff resources, 35% utilised Public Library reading and 32% utilised the Press in this regard for their awareness-knowledge.

(8) 'The Three-language Formula' was an item well known to students (mean awareness = 3.13) and their mean Utilisation of Sources of Information was 28.4% the highest recorded in the research. Students in Tamil Nadu were particularly sensitive to the language question in the curriculum. The Press and the Radio too had contributed notably to their awareness of this issue.

TABLE 4.71: PERCENTAGE OF B.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATION AND THE COMMUNITY:

Item No.	Sources of Information Recent Developments.										Total	Mean Utilisation	Weighted Mean Awareness.
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
8.01	62	28	15	15	36	15	30	19	4	23	247	24.7	2.92
8.02	59	24	13	11	32	12	28	21	4	20	224	22.4	2.73
8.03	48	23	12	10	26	7	21	9	4	17	174	17.4	1.94
8.04	48	26	21	11	29	11	39	23	4	29	241	24.1	2.97
8.05	49	26	24	16	24	12	35	19	3	29	237	23.7	2.97
8.06	44	21	15	15	20	7	21	13	2	16	174	17.4	2.00
8.07	57	31	17	27	32	10	26	13	2	23	238	23.8	3.13
8.08	61	33	20	17	26	10	26	19	7	25	244	24.4	3.28
8.09	43	21	11	8	22	8	24	13	2	20	172	17.2	2.04
8.10	54	26	16	39	25	9	28	14	3	25	239	23.9	3.13
8.11	54	25	17	44	27	9	21	10	2	25	234	23.4	3.17
8.12	48	24	10	27	23	6	18	8	3	22	189	18.9	2.58

(1) With regard to 'Equality of Educational Opportunity and Education of the Disadvantaged Sections of the people', B.Ed students obtained a weighted mean Awareness score of 2.91 and they made 24.7%

mean Utilisation of Sources of Information as shown in Table 4.71 Besides the usual dominant use of the College faculty and College library, 30% had utilised the daily newspapers, 15% had utilised class-mates, school contacts and Public library reading on the theme. Besided that 19% of students had utilised the Radio to develop that awareness-knowledge in this regard.

(2) Regarding UNESCO-UNICEF Science, they got a mean Awareness score of 2.73 and had made 22.4% mean Utilisation of the Sources of Information.

(3) In the case of 'Intergrated Curriculum', their mean Awareness was less than 'something' (1.94) and they had made 17.4% mean Utilisation of Sources of Information.

(4) For 'Correspondence Education' (own-time education), they had a mean Awareness of 2.97 and had made 24.1% mean Utilisation of Sources. It was interesting to note that 39% had utilised daily newspapers, and 23% had utilised the radio for gaining their awareness-knowledge. 21% had discussed this theme with their class-mates.

(5) In the matter of 'Evening College courses (part-time education), their mean Awareness was 2.97 and their mean Utilisation of Sources was 23.7%. It was significant that 35% of them had read regarding this in the dailies, 24% had discussed this amoung their class-mates, while 29% had used other Sources in this subject.

(6) They got a mean Awareness of 2.00 on 'Functional Literacy Programme' and had made a mean Utilisation of 17.4%.

(7) Regarding 'Book Banks in Schools and Colleges', they had a

mean Awareness of 3.13 and 23.8% of Sources-utilisation.

(8) On 'Community and Social Service by College Students', their mean Awareness was 3.28 and the mean Utilisation of Sources was 24.4%.

(9) Regarding 'Open University', their Awareness was limited, the weighted mean being 2.04 and they had made 17.2% Utilisation of Sources in this matter, They had not received the usual level of help from the college faculty, formally and informally taken together.

(10) With regard to 'Mid-day Meal Scheme', mean Awareness and Sources-utilisation were respectively 3.13 and 23.9%. 39% of them had learnt about it from their school contacts, 28% had read about in the dailies, besides the usual use of the college faculty and the library.

(11) On 'Parent Teacher Association', they had a good deal of awareness (3.17) and had made 23.4% mean Sources-utilisation. It was significant that 44% of them had utilised the 'School Contacts' to develope their knowledge in this regard. 'School Contracts' as a source had contributed maximum to this item.

(12) Regarding 'School Improvement Projects through Community Support they had a little above average awareness (2.58) and had 18.9% mean Utilisation of Sources of Information.

D.5.9: EDUCATIONAL REPORTS:

The Utilisation of the Sources of Information by the B.Ed students relating to their Awareness-knowledge of Educational Evaluation could be seen in Table 4.72

TABLE 4.72: PERCENTAGE OF B.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATIONAL REPORTS:

Item No.	Sources of Information on Recent Developments.										Total	Mean utilisation	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
9.1	69	23	10	8	45	13	16	5	0	13	202	20.2	3.31
9.2	40	16	6	4	26	7	13	3	0	8	123	12.3	1.60
9.3	65	25	12	9	46	16	21	9	1	16	220	22.0	3.29
9.4	27	11	6	3	18	6	7	3	1	6	88	8.8	0.89

(1) They had a good deal of awareness of 'The University Education Commission Report (Dr. S. Radhakrishnan), 1951, their weighted mean awareness being 3.31. They had 20.2% Utilisation of Information Sources and it followed the usual course as shown in Table 4.72

(2) They were poorly aware of 'Report of the Committee on Rural Higher Education (Dr. K.L.Shrimali)', their mean Awareness remaining at 1.60. Their Utilisation of Information-sources was also poor in this respect, the mean being 12.3%. Even the College faculty formally as a source had not made its usual contribution on this item.

(3) They had very high awareness-knowledge of the Education Commission Report' entitled "Education and National Development" (Dr. D.S. Kothari) 1964-66', the mean Awareness being 3.29. They had made 22% mean Utilisation of the Information-sources.

(4) Their awareness was poorest with regard to the British Plowden Committee Report on "Children and their Primary Schools"|HMS-1967 the mean being 0.89, the least obtained by them in this research. Their Sources-utilisation was also woefully inadequate, the mean being 8.8% the lowest recorded in this investigation.

D:5:10 EDUCATIONAL PLANNING :

The particulars pertaining to B.Ed. students' Utilisation of Sources of Information relating to their Awareness-knowledge of Educational Planning were placed in Table:4.73.

Table:4.73: Percentage of B.Ed. students utilising the Ten Sources of Information for Awareness-knowledge of EDUCATIONAL PLANNING:

Item No.	Sources of Information on Recent Developments											Mean Utilisation	Weighted Mean Awareness.
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
10.1	61	24	10	10	35	14	24	10	2	16	206	20.6	2.93
10.2	54	24	11	13	30	13	29	16	3	17	210	21.0	2.81
10.3	41	14	8	6	20	6	17	5	2	12	131	13.1	1.67
10.4	35	14	7	5	16	8	17	6	1	16	125	12.5	1.51
10.5	40	15	6	7	21	7	16	6	0	14	132	13.2	1.65
10.6	37	17	7	7	21	8	20	7	1	17	142	14.2	1.77
10.7	41	20	8	9	24	9	20	7	1	18	157	15.7	2.00

(1) In the matter of 'Educational Planning-Planning for Equalisation of Educational Opportunity', B.Ed. students showed a mean awareness of 2.93 and had made 20.6% mean Utilisation of Sources of Information as seen in Table:4.73.

(2) Regarding 'Planning for Higher Secondary Education', their mean Awareness was 2.81 and they had made 21.0% mean Utilisation of Sources of Information. For this item, they utilised the dailies a little more than for any other item under the category, Educational Planning.

(3) With regard to 'Planning a Multiple-entry and Exit system of Education', their awareness was woefully inadequate since the mean was 1.67 only. They had 13.1% as mean Utilisation of sources of Information. Even the college faculty had made a less than usual contribution to their awareness-knowledge.

(4) 'Man-Power Planning' was so little know among B.Ed. students, they secured a mean of 1.51. Their Utilisation of Information Sources was also very inadequate, the mean remaining at 12.5%. The contribution from the college faculty for their awareness and knowledge was very limited on this item.

(5) On 'Institutional Planning', they had shown a very low level of awareness, the mean being 1.65. They had 13.2% as mean Utilisation of Sources of Information. Only 7% had learnt of this item in their school contacts. That suggested that probably the schools were not widely practising Institutional Planning themselves.

(6) Their awareness of "Economics of Education" was very meagre, the mean being 1.77 and utilisation of Sources was limited (14.2%).

(7) In the case of "Educational Survey", their awareness was

'something' (2.00), and their Sources-utilisation was 15.7%.

D:5:11 EDUCATIONAL LITERATURE:

The percentage of B.Ed. Students using different Sources of Information for their Awareness Knowledge of Educational literature could be found in Table:4.74.

Table:4.74: Percentage of B.Ed. Students utilising the Ten Sources of Information for Awareness-knowledge of EDUCATIONAL LITERATURE:

Item No.	Sources of Information on Recent Developments										Total	Mean utilisation	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
11.1	40	19	15	38	20	7	14	6	0	18	177	17.7	2.76
11.2	42	18	8	22	19	4	12	6	1	11	143	14.3	2.22
11.3	32	11	7	4	19	5	8	3	0	6	95	9.5	1.07
11.4	28	11	7	4	16	5	6	4	0	7	88	8.8	0.96

(1) Regarding 'Work-book for Students', their mean Awareness was 2.76 and the mean Utilisation of Sources was 17.7% as shown in Table.4.74. It was significant that 38% of them had come to know of this item in their school contacts which would imply the adoption of work-books for students in the school situation.

(2) They had limited awareness (2.22) of 'Programmed texts'. They made 14.3% mean Utilisation of Information Sources in this connection.

(3) With regard to "Taxonomy of Educational Objectives volume I (Cognitive Domain) (Bloom et al) Longmans, 1958' Utilisation of Sources of Information in this respect was very restricted (9.5%)

Even the College faculty had played a pretty small role for contributing to their awareness-knowledge. Further enquiry brought to light that this book was not available in many libraries of Colleges of Education.

(4) With regard to 'Taxonomy of Educational Objectives Volume II (Affective Domain (David R.Krothwohl et al) Longmans, 1964', they were least aware among the 130 items of Recent Developments in Education, as evidenced by the weighted mean of 0.96 and a mean Sources-utilisation of 8.8%; once again the lowest in the whole lot. Not only had affective objectives remained neglected in education for long, even the Taxonomy of Affective Objectives was found to be little known.

D:5:12 EDUCATIONAL AGENCIES:

The pattern of Utilisation of the Sources of Information of the B.Ed. students for their Awareness-Knowledge of Educational Agencies was analysed based on the data in Table.4.75.

Table:4.75 : Percentage of B.Ed. Students utilising the ten Sources of Information for Awareness-Knowledge of EDUCATIONAL AGENCIES:

Item No.	Sources of Information on Recent Development										Total	Mean Utilisation	Weighted Mean Awareness
(1)	1. (2)	2. (3)	3. (4)	4. (5)	5. (6)	6. (7)	7. (8)	8. (9)	9. (10)	10. (11)	(12)	(13)	(14)
12.01	46	20	10	7	28	9	25	12	2	17	176	17.6	2.25
12.02	39	19	9	7	20	8	20	6	1	17	146	14.6	2.08
12.03	28	15	7	7	15	5	12	5	0	12	106	10.6	1.42
12.04	32	16	8	5	17	5	19	6	1	13	122	12.2	1.73
12.05	32	18	12	7	15	7	22	10	2	18	143	14.3	2.08

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
12.06	24	16	12	8	13	6	20	11	2	15	127	12.7	1.85
12.07	33	19	14	5	18	8	24	8	1	18	148	14.8	2.26
12.08	21	9	8	4	12	5	16	3	1	10	89	8.9	1.45
12.09	18	10	9	5	12	7	18	9	1	14	103	10.3	1.57
12.10	16	11	10	10	10	4	16	7	1	17	102	10.2	1.85
12.11	40	19	10	10	26	9	26	13	1	17	171	17.1	2.49
12.12	22	12	7	4	15	7	18	5	1	10	101	10.1	1.59
12.13	42	22	10	6	24	11	28	14	3	19	179	17.9	2.89
12.14	20	13	5	3	12	4	16	4	1	11	89	8.9	1.51
12.15	11	9	4	3	11	6	19	7	1	13	84	8.4	1.33

(1) With regard to state level Educational Agencies, they had slightly above average Awareness (2.25) of 'the State Council of Educational Research and Training'. and their mean Utilisation of Sources of Information was 17.6% as set out in Table:4.75. The College faculty (formally), college library, and the Press were the three sources used by more than one-fourth of the students for gathering their awareness and knowledge in this regard.

(2) They had about average Awareness of 'The State Institutes of Education' (2.08) and their mean Utilisation of Sources of Information was 14.6%.

(3) Among State level agencies, the least known agency was the 'State Evaluation Units', the weighted mean Awareness remaining 1.42 and the Utilisation of Information-Sources was very limited (9.5%). Even the College faculty had made poor contribution to B.Ed. students' awareness in this respect.

(4) In the case of 'Examination Reform units in select Universities'; students had limited Awareness (1.73) and their mean Utilisation of Information-sources was 12.2%.

(5) With regard to Regional level educational agencies, they were just aware of something (2.08) regarding the Technical Teachers' Training Institute (Southern Region) Madras and they had made 14.3% Utilisation of Sources of Informaion in this connection.

(6) Regarding the 'Regional Institute of English, (Southern Region), Bangalore, they were aware of less than something (1.85) and their Utilisation of Information-sources was 12.7%.

(7) In the matter of 'Regional Colleges of Education', their Awareness was slightly above average (2.26) and their Utilisation of Sources of Information was 14.8%.

(8) At the national level, they showed a very low level of Awareness (1.45) of the Rural Higher Institutes, the Institutes that were started on the basis of Shrimali Committee Report on Rural Higher Education. Their Utilisation of Sources of Information in this regard was one of the very lowest(8.9%).

(9) They had low level of Awareness (1.57) of the Central Institute of English& Foreign Languages, Hyderabad and this was lower than their Awareness of the Regional Institute of English at Bangalore. Their Utilisation of Sources of Information in this regard was 10.3%. Even the College faculty had made precious little contribution for the students' awareness-knowledge in this respect.

(10) Regarding the national organisation called "Kendriya Vidyalaya Sangathan", their Awareness was of a low level (1.85) and they made 10.2% Utilisation of Sources of Information. Further enquiry revealed that colleges of Education had no contacts with Kendriya Vidyalayas and they did not depute B.Ed. students for teaching practice to such schools.

(11) At the national level, students' Awareness of 'the National Council of Educational Research and Training' was a little above average (2.49). They had made 17.1% Utilisation of the ten sources put together. School contacts had helped only 10% to gather their awareness from that source. Probably the NCERT's impact on the consciousness of the pre-service teacher candidates might be much less than what would be expected.

(12) Regarding 'the Indian Council of Social Science Research, New Delhi', their Awareness was low (1.59) and they had made only 10.1% Utilisation of Sources of Information pertaining to the ICSSR.

(13) Students' awareness of the 'University Grants Commission (UGC)' was above average (2.89) and their Utilisation of Sources of Information was 17.9% . Among the many agencies, they had learnt of the UGC through the dailies more than any other besides the first source, College faculty.

(14) Regarding the Association of Indian Universities, New Delhi, their Awareness was tremendously low (1.51) and their Utilisation of sources was meagre (8.9%).

(15) Regarding the UNESCO Regional Office for Education in Asia, Bangkok at the international level, their Awareness was

all the more meagre (1.33) and they made the minimal Utilisation of Sources of Information (8.4%) on this item.

D:5:13 : CONCLUSION :

(1) Among the ten Sources of Information relating to Recent Developments in Education (RDE) in this study, 47.8% of B.Ed. students on an average had utilised the college Faculty (formally) for building their Awareness-Knowledge. Particulars regarding category-wise Average Utilisation of the Sources of Information by B.Ed. students was placed in Appendix XXVIII.A. The Utilisation of this Source of Information had ranged from 28.3% to 61.5%; 28.3% of them were utilising this for the Recent Developments in Education under the category XII (Educational Agencies) and 61.5% were using the same Source for the category VII (Education and the curriculum). It was worth noting at that stage, that category VII stood at rank 1 status with regard to B.Ed. students' awareness among the 12 categories, while category XII got 11th rank.

(2) College Library reading was a Source of Information, on an average, utilised by 26.3% of B.Ed. students for their Awareness Knowledge of 130 items of Recent Developments in Education. The Utilisation of this Source ranged from 16.5% (in the case of category XII-Educational Agencies) to 34.8% (with regard to category VII - Education and the curriculum).

(3) The College Faculty (infonnally) as a Source was utilised by 20.7% of B.Ed. students on an average, for their Awareness-Knowledge of Recent Developments in Education and the use of this Source practically ranged from 14.8% (in the case of category XI - Educational Literature) to 27.6 (in the matter of category VII-Education and the curriculum. This indicated that the College Faculty (Informally) had made, on its part, the lowest contribution for students' Awareness of the category XI-Educational Literature and it was worthy of note, that the B.Ed. students' Awareness was the lowest for this category among the 12 categories.

(4) The press as one of the mass-media of information was utilised by 18.3% of B.Ed. students, on an average for their Awareness of Recent Developments in Education. 9% of B.Ed. students could use the Press for their Awareness-Knowledge of Category III-Educational Psychology while 28.9% had used the same for the most popular category VIII-Education and the curriculum. The nature of the subject, Psychology was such that the Press could not be powerful Source for dissemuniation while it could high/light Recent Developments in the curriculum.

(5) 15.6% of B.Ed. students, on an average, had utilised the School contacts for their Awareness-Knowledge concerning Recent Developments in Education. Theiruse of this Source ranged from 6% with regard to categoryIX-Educational Reports to 21.2% regarding category II-Education and the Teachers. School contacts as a Source, had contributed most

for disseminating Recent Developments in Education associated with the teachers. The fact that only 6% had reported using school contacts concerning their awareness of Educational Reports indicated that in the schools matters relating to Educational Reports were not figuring much in the inter-actions between student-teachers, cooperating teachers and Headmasters and other personnel.

(6) Class-mates, as Source of Information on Recent Developments in Education had been reported by 12.6% of B.Ed. students. Class-mates seemed to have made their highest contribution for Awareness of Recent Developments relating to category VIII-Education and the community and the least for category X- Educational Planning, since only 8.1% of B.Ed. students had used this source.

(7) The Radio, on an average, had been used by 10% of B.Ed. students for their Awareness of Recent Developments. Its highest contribution for their Awareness of Recent Developments was with regard to category I-Education and the State because 16.5% of B.Ed. students had used the Source towards that. As a mass-medium under governmental control, it had played its significant role in building student-teachers' Awareness of Recent Developments relating to Education and the State. Its lowest utilisation was with regard to category XI-Education Literature, since only 4.8% of B.Ed. students availed this Source.

(8) The Utilisation of Public Library reading had been rather limited and only 9.2% of B.Ed. students had done it. Its

utilisation by the student ranged from 5.3% for category XI - Educational Literature to 14.4% for category VII - Educational and the curriculum.

(9) The TV, a modern urban Source of Information had been availed of by only 2.0% of B.Ed students. Its highest utilisation was for category V - Methods of Teaching and Learning (4.2%) and its lowest was for category XI - Educational Literature (0.3%).

(10) The other sources (other than the mine specified so far) had been used by 15.4% of B.Ed students for developing their Awareness - Knowledge of Recent Developments in Education. The highest utilisation of the other Sources came with respect to category VIII - Education and the Community (22.8% utilisation) and its lowest was with respect to category IX - Educational Reports.

(11) Finally considering all the ten Sources of Information, their mean utilisation by the B.Ed students was only 17.789%. The B.Ed students should learn to utilise more vigorously the available Sources of Information while the University of Madras, the colleges of Education and the other agencies involved in teacher-education should add to the stock of resources and facilitate fullest utilisation of the same.

D.6: UTILISATION OF SOURCES OFINFORMATION BY THE M.Ed STUDENTS.

D.6.1: EDUCATION AND THE STATE:

The particulars concerned with the Utilisation of Sources of Information on Recent Developments in the category Education and the state relating to M.Ed student sample was placed in Table 4.76

TABLE 4.76: PERCENTAGE OF M.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATION AND THE STATE.

Item No.	Ten Sources of Information 1	2	3	4	5	6	7	8	9	10	Total	Utilisation Mean.	Weighted Mean Awareness
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1.1	36	12	3	13	35	13	37	15	4	6	174	17.4	2.02
1.2	21	8	4	12	15	13	49	14	1	8	145	14.5	1.85
1.3	28	14	13	26	27	22	36	15	3	8	192	19.2	2.24
1.4	50	15	16	29	45	21	59	36	5	19	295	29.5	3.28
1.5	50	18	9	33	42	22	42	24	3	24	267	26.7	3.44
1.6	36	15	15	15	29	6	45	6	1	12	180	18.0	2.16
1.7	26	15	5	13	21	5	23	10	1	12	131	13.1	1.64
1.8	36	12	21	14	27	6	33	9	1	21	180	18.0	2.13

(1) Their mean awareness of 'National Policy on Education, 1968' was 2.02 and mean Utilisation of Sources was 17.4%. They had utilised largely daily newspapers, college faculty and college library reading for developing Awareness knowledge as shown in Table 4.76.

(2) Their Awareness of 'Education being placed in the Concurrent List of the constitution in 1976' was rather low (.185) and their mean Utilisation of Sources was 14.5%. They had dominantly availed of the channel of the Press for learning this item.

(3) They were aware of something regarding the 'Secular nature of education in the public schools of India' (2.24) and they had fairly evenly utilised the Press, College faculty, School contacts and classmates as sources of information in this respect.

(4) They were aware of more than a good deal of 'National structure and pattern of education (10+2+3)' and their mean Utilisation of Sources was 29.5%, and this was the highest among the eight items in this category. They used the Press, College faculty (formally), college library and the Radio for gathering awareness-knowledge of this item.

(5) They were very well aware of 'Free and Compulsory Primary Education'(3.44) and their mean Sources-utilisation was 26.7%.Next to the college faculty (formally)as a Source, they had utilised the college library, the Press and the school contacts towards this.

(6) Their Awareness of the NCERT's National Talent Search Scheme was slightly above the average and they had made 18.0% mean Utilisation of Sources of Information. The Press was utilised by 45% of the students and the college faculty (formally) by 36% only.

(7) They had a low level of Awareness regarding NCERT'S National Rural Talent Search Scheme (1.64) and they made 13.1% mean Utilisation of Sources.

(8) Their awareness of the NCERT's National Science Talent Search Scheme was just something and they had made 18.0% mean Utilisation of Information-sources. Public library reading, the Radio and the T.V. had played a negligible role in the development of Awareness of the M.Ed students regarding the NCERT's Schemes for talented children.

D.6.2: EDUCATION AND THE TEACHERS:

The particulars pertaining to M.Ed students' Utilisation of Sources of Information regarding Recent Developments under the category Education and the Teachers and the Weighted mean Awareness of the items could be seen in Table 4.77.

TABLE 4.77. PERCENTAGE OF M.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATION AND THE TEACHERS:

Item No.	Ten Sources of Information										Total.	Mean utilisation,	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
2.01	50	15	29	53	33	12	31	10	0	24	260	26.0	3.37
2.02	37	13	18	47	22	10	24	5	0	21	197	19.7	3.11
2.03	65	22	27	15	44	8	8	1	3	13	196	19.6	2.59
2.04	6	45	19	10	21	31	6	15	4	0	157	15.7	2.06
2.05	40	17	8	21	35	4	23	5	0	15	168	16.8	1.86
2.06	69	27	14	24	33	10	9	0	0	10	196	19.6	2.76
2.07	26	9	15	50	15	9	40	6	1	25	197	19.7	2.90
2.08	21	8	10	19	12	6	21	6	0	10	113	11.3	1.34
2.09	33	23	9	28	18	8	24	8	1	10	162	16.2	2.13
2.10	38	17	14	44	24	9	14	3	4	18	185	18.5	2.43

(1) The M.Ed students were well aware of 'In-Service Education and Training of Teachers' and the weighted mean awareness was 3.37, the highest for any item in this category as shown in Table 4.71. They made 26.0% mean Utilisation of Information-sources. 53% of them had utilised the school contacts and 50% the college faculty (formally) for building their awareness-knowledge.

(2) They were well aware of 'Summer Institutes for Teachers' (3.11) and they made 19.7% mean Utilisation of Sources. 47% had used school contacts, and 37% the college faculty(formally) as Sources of Information besides others.

(3) Their Awareness was just above the average (2.59) regarding 'Action Research by Teachers' for which they made 19.6% mean Sources-utilisation. The major channels of information were the college faculty (used by 65%) and college library used by 44%.

(4) They had low level of Awareness regarding 'National Programme of Seminar Readings for Teachers and Teacher-educatiors by the NCERT', for which their mean Sources-utilisation was 15.7% only. The college faculty (informally)as a source was utilised by 45% of them. The faculty (formally) seemed to have made almost negligible contribution in this respect.

(5) They had low level of Awareness of 'Experimentel and Developmental Projects by Teachers supported with the NCERT funds' and they made 16.8% mean Utilisation of Sources.

(6) They had some Awareness of 'Evaluation of Teaching', for which they made 19.6% mean Utilisation of Sources. 69% of students had utilised the college faculty (formally) towards this.

(7) They had above average Awareness of 'Panel Inspection of Schools in Tamil Nadu' (2.90) and they had 19.7% mean Sources-utilisation. 50% of them had used school contacts, 40% had used daily newspapers, while 26% used College faculty (formally)towards this purpose.

(8) Their Awareness was very low regarding 'Professional Autonomy of Teachers' and this was surprising. The mean Utilisation of Information-sources was 11.3%, the lowest among the ten items relating to teachers.

(9) Their Awareness of the 'Teachers' centre like the one in the SCERT, Madras ' was low and the mean Sources-utilisation was 16.2%.

(10) They had some Awareness regarding 'Teacher-Aides' and the mean Utilisation of Sources of Information was 18.5% School contacts as a sources was the one used by the highest percentage of students among the ten sources.

D.6.3: EDUCATIONAL PSYCHOLOGY:

The particulars regarding M.Ed Students' Utilisation of Sources of Information on Recent Developments in Educational Psychology Could be seen in Table 4.78

TABLE.4.78. PERCENTAGE OF M.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATIONAL PSYCHOLOGY:

Item No.	Ten Sources of Information										Total	Mean utilisation.	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
3.1	46	17	10	21	28	4	5	0	0	4	135	13.5	1.72
3.2	67	13	12	18	33	9	4	4	1	6	167	16.7	2.35
3.3	81	28	18	14	51	10	15	1	1	13	232	23.2	2.79
3.4	68	21	14	27	38	8	6	4	1	14	201	20.1	2.69
3.5	59	24	8	9	40	12	6	1	0	10	169	16.9	2.39

(1) M.Ed students had a low level of Awareness regarding ' 'Flexible grouping of Pupils' and 13.5% was mean Utilisation of Information-sources for that item, as presented in Table 4.78

(2) They had some Awareness of 'Achievement Motivation', and 23.2% was the mean Utilisation of the Information-sources. 67% had gathered this awareness from the college faculty (formally).

(3) They had above average Awareness of 'Guidance and Counselling', and made a mean Utilisation of Sources to the order of 23.2%. 81% of them mentioned use of the college faculty (formally) and 51% the college library reading for fashioning their awareness-knowledge.

(4) They had approximately above average Awareness of the 'class-room climate' and made 20.1% mean Utilisation of Sources of Information. 68% of students had availed the source of the college faculty (formally) in thisregard.

(5) They were aware of something of 'Ned Flanders' Interaction analysis' and the mean Utilisation of Information Sources was 16.9%. 59% mentioned they heard of this item from the college faculty (formally). Educational Psychology being a compulsory and core subject, students had utilised the college faculty (formally) very much, judged by the percentages and the next to come was college library reading. Practically sources such as Public library, Newspapers, Radio, and T.V. found a negligible place in student-utilisation.

D.6.4: EDUCATIONAL MANAGEMENT AND ADMINISTRATION:

How many students had utilised the different Sources of Information for their Awareness-Knowledge of Recent Developments in Educational MANAGEMENT AND ADMINISTRATION could be seen in Table 4.79.

TABLE 4.79: PERCENTAGE OF M.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATIONAL MANAGEMENT AND ADMINISTRATION.

Item No.	Ten Sources of Information										Total	Mean utilisation	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
4.01	27	12	6	12	26	4	5	0	0	10	102	10.2	1.26
4.02	28	8	9	10	26	6	9	3	0	10	109	10.9	1.38
4.03	32	19	12	14	33	6	9	1	0	13	139	13.9	1.63
4.04	28	19	14	12	23	6	14	5	0	10	131	13.1	1.71
4.05	28	18	14	14	23	8	26	1	0	13	145	14.5	1.70
4.06	35	18	6	15	28	6	15	3	1	13	140	14.0	1.72
4.07	40	17	15	33	38	9	54	14	3	21	244	24.4	2.96
4.08	22	17	27	49	21	6	35	6	1	31	215	21.5	2.84
4.09	27	13	24	55	18	9	18	6	0	24	194	19.4	2.74
4.10	31	15	12	27	23	6	15	1	1	17	148	14.8	1.97
4.11	21	14	13	44	14	3	29	10	1	29	179	17.9	2.57
4.12	31	19	15	8	23	12	54	22	3	15	202	20.2	2.37
4.13	35	17	6	9	19	6	17	0	0	12	121	12.1	1.50
4.14	74	33	17	13	38	12	36	13	1	21	259	25.9	3.07
4.15	29	18	14	28	24	4	14	4	1	9	145	14.5	1.85

(1) Their Awareness-knowledge of 'Educational Management by Objectives' as a concept was very poor. They had also made very small Utilisation of Sources because the mean was 10.2% as set out in Table 4.79.

(2) Their Awareness of 'Human relations and Communications in Management' as a concept was ppor and they had 10.9% mean Utilisation of Sources of Information.

(3) Their Awareness of 'Assessment of Organisational Climate of Educational Institutions' was rather limited. They made 13.9% mean Utilisation of Sources. Among the top two sources used, 33% mentioned college library reading and 32% 'the college faculty (formally)!

(4) In the case of 'College Complex', their Awareness was rather limited and 13.1% was the mean Utilisation of Sources.

(5) With regard to 'Quality Control in Education' viewed as a concept, their Awareness was of a low order and 14.5% was the mean Utilisation of Information Sources.

(6) They had limited Awareness of 'Management of Educational Innovations' and 14.0% was the mean Utilisation of Sources in this regard.

(7) They had nearly a good deal of Awareness of 'Nationalisation of school Text-books'. They made 24.4% mean Utilisation of Sources. The Press was used by 54%, college faculty by 40%, College library by 38% and school contacts by 33% for fashioning their awareness-knowledge.

(8) They had above average Awareness of the 'Shift System for Schools'; 21.5% was the mean Utilisation of Sources of Information. The most used Source was 'School Contacts' and 49% had mentioned the next came 'the Press' used by 35% of students.

(9) They had above average Awareness of 'The School Complex Programme', 19.4% was the mean Utilisation of Sources in this respect. The source most used was the school-contacts, mentioned by 55% of the students.

(10) Their Awareness was less than something for 'Flexible Scheduling of school work'. They made 14.8% mean Utilisation of the ten Sources. 31% and 27% of students had used respectively the College faculty (formally) and the school contacts.

(11) Their Awareness was approximately above average with regard to 'Central Kitchen for Mid-day Meals Programme'. They made 17.9% mean Utilisation of the ten Sources. School contacts and the Press were utilised by 44 and 29% of students respectively.

(12) They were aware of slightly more than something of 'Autonomous status of certain colleges'. They had made 20.2% mean Utilisation of the ten Sources. The Press was the most prominent Source of Information for this item and this was used by 54% of students.

(13) They were merely aware of the mere presence of the item, 'Decision-making in Educational Management' and had also made 14.5% mean Utilisation of the ten Sources of information.

(14) They were aware of a good deal regarding the 'Semester System of Course Organisation'. It should be observed that their own course was organised on that basis. They made 25.9% mean Utilisation of Sources and this was the highest among the fifteen items under EMA. The larges used Source was the college faculty formally because 74% had mentioned the same.

(15) They were poorly aware of 'Mixed ability Grouping of pupils' for which their mean Sources-utilisation was 14.5%. College faculty (formally) and School contacts were the two top used Sources and they were mentioned by less than 30% of students.

D.6.5: METHODS OF TEACHING AND LEARNING :

What percentage of M.Ed students had utilised the different Sources of Information on Recent Developments under Methods of Teaching and Learning could be seen in Table 4.80

TABLE.4.80: PERCENTAGE OF M.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF METHODS OF TEACHING AND LEARNING:

Item No.	Ten Sources of Information.										Total	Mean utilisation.	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
5.01	26	22	21	53	19	9	29	14	3	19	215	21.5	2.79
5.02	22	14	21	53	15	8	38	42	5	24	242	24.2	3.12
5.03	71	28	17	40	42	13	10	5	4	14	244	24.4	3.10
5.04	32	17	13	21	28	0	26	10	15	21	183	18.3	2.08
5.05	41	17	10	13	29	6	9	3	1	10	139	13.9	1.95
5.06	37	18	8	6	27	6	9	1	1	13	126	12.6	1.71
5.07	29	13	9	5	22	6	14	5	10	14	127	12.7	1.72

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
5.08	54	24	10	8	41	16	10	5	3	15	186	18.6	2.42
5.09	53	22	17	23	46	14	13	5	3	14	210	21.0	2.73
5.10	55	23	14	22	51	14	10	4	0	15	208	20.8	2.77
5.11	44	18	8	15	35	5	1	1	0	9	135	13.5	1.76
5.12	54	21	10	22	35	5	4	1	0	14	166	16.6	2.27
5.13	41	19	5	15	29	6	10	3	1	14	143	14.3	1.93
5.14	28	13	13	17	27	3	4	1	0	6	112	11.2	1.58
5.15	44	17	15	23	38	17	8	5	1	13	181.	18.1	2.56
5.16	64	27	19	16	59	21	15	5	1	23	250	25.0	2.92
5.17	31	17	15	19	33	18	8	1	0	15	157	15.7	2.18
5.18	32	15	14	5	22	6	5	3	0	10	112	11.2	1.47
5.19	46	22	15	14	45	8	10	4	3	14	181	18.1	2.39
5.20	67	32	15	10	56	18	18	0	3	18	237	23.7	2.93
5.21	64	24	21	31	46	10	9	1	3	21	230	23.0	3.18
5.22	55	23	14	19	51	10	13	1	0	12	198	19.8	2.51

(1) Their mean Awareness of 'Mobile Science Laboratory for Schools' was 2.79 and the mean Utilisation of Sources was 2.15% as set out in Table 4.80. School contacts were used by 53% of students to know this item. The Press, the faculty and their class-mates were the next Sources used by students.

(2) They were aware a good deal of 'AIR Programme use in Schools'. The mean Utilisaton of the Sources was 24.2%. 53%, 42% and 38% students utilised the school contacts, the Radio and the Press respectively to develop their Awareness and Knowledge.

(3) They were aware a good deal of the 'Demonstration Method' and the mean Utilisation of Sources of Information was 24.4%. The college faculty (formally) had contributed most to their Awareness and Knowledge, followed by Library reading and School contacts.

(4) They had some awareness regarding 'Educational Television (ETV)' and their mean Sources-utilisation was 18.3%. It was interesting to note, that TV, a Source utilised the least for most items of Recent Developments in Education was used by 15% of the students for getting to know on ETV.

(5) They were aware 'a little less than something' regarding the 'Overhead Projector', The mean Utilisation of the Sources was 13.9%. It was noted that Public library, the Press, the Radio and the TV had been utilised to a negligible extent in this matter.

(6) On 'Language Laboratory', their Awareness was rather low and the mean Utilisation of Sources was 12.6%. School Contacts, Public Library, Radio, the TV and the Press were utilised to a negligible extent in this matter.

(7) On 'Closed Circuit Television for educational use', their Awareness was limited and at a low level. The mean Utilisation of the Sources was 12.7%.

(8) They were aware of something regarding 'Teaching Machine' and the mean Utilisation of the Sources was 18.6%. The top two Sources utilised were the college faculty and library because they were mentioned by 54 and 41% of students respectively.

(9) On 'Independent study', their Awareness touched more than average of the scale value and they made 21% mean Utilisation of Sources of Information.

(10) On 'Activity based method of teaching and learning', their Awareness was above the average of the Scale value. They made 20.8% Utilisation of the Information-sources. The college

faculty (formally) and college Library Reading had more or less equally been utilised as two major Sources in this respect by students.

(11) On 'Discovery Learning', their awareness was at a low level. They had made 13.5% mean Utilisation of Sources.

(12) On 'Remedial Teaching', they had some awareness and 16.6% was the mean Utilisation of Sources.

(13) With regard to 'Resources based teaching and learning' they were aware of 'less than something'. The mean Sources-utilisation remained 14.3%.

(14) They were poorly aware of 'Simulation' and the mean Utlisation was only 11.2%.

(15) Their awareness of 'Educational Games' was slightly above the average scale value and their mean Utilisation of Sources was 18.1%.

(16) Their awareness of Programmed Instruction was well above average and they made 25.0% mean Utilisation of the sources, the highest among the 22 items under methods of Teaching and Learning.

(17) They were just aware of something of 'Open-Shelf library'. 15.7% was the mean value with regard to utilisation of the ten sources. College library as a source topped and was followed by college faculty(formally) as the second best source.

(18) They were poorly aware of 'Brain Storming' as a method focussed on the group. They made only 11.2% Utilisation of the sources.

(19) They had some awareness of 'Panel Discussion'. They made 18.1% mean Utilisation of the sources.

(20) On Micro teaching, they had nearly good deal of awareness. Their mean Sources-utilisation was 23.7%. The college faculty had been very actively contributing to this as evidenced by the large percentage of students marking its use. College library too had made no mean contribution in this regard.

(21) They were aware of a good deal about the 'Teaching Models' and they made 23% mean utilisation of the sources. The most used source was the college faculty (formally) and this was followed by college library reading.

(22) On 'Team Teaching' they had average awareness and 19.8% was the mean of the Utilisation of the Sources of Information.

D.6.6: EDUCATIONAL EVALUATION:

The particulars pertaining to the Utilisation of the Sources of Information related to Recent Developments in Educational Evaluation by the M.Ed students were placed in Table 4.81.

TABLE.4.81: PERCENTAGE OF M.Ed STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATIONAL EVALUATION.

Item No.	Ten Sources of Information										Total	Mean Utilisation.	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
6.01	51	14	6	6	35	10	8	0	0	14	144	14.4	1.77
6.02	63	23	10	13	36	12	8	0	0	15	180	18.0	2.45
6.03	27	10	5	6	14	8	5	0	0	9	84	8.4	1.18
6.04	45	21	5	4	27	9	6	0	0	6	123	12.3	1.48
6.05	50	23	13	24	36	10	8	0	0	15	179	17.9	2.45
6.06	65	26	13	31	49	15	10	3	0	18	230	23.0	3.01

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
6.07	55	21	12	29	37	9	8	0	0	13	184	18.4	2.58
6.08	65	27	12	22	41	9	6	1	0	10	173	17.3	2.79
6.09	51	22	14	28	27	8	5	1	0	13	169	16.9	2.49
6.10	18	14	13	22	21	6	21	0	0	18	133	13.3	2.12
6.11	53	22	21	32	38	6	8	1	0	21	195	19.5	2.38
6.12	72	32	22	21	38	15	22	8	4	27	260	26.0	3.07
6.13	51	23	18	28	40	13	19	6	3	18	223	22.3	2.70
6.14	17	8	21	68	18	6	23	6	0	29	193	19.3	3.08
6.15	32	18	15	24	231	9	19	6	1	17	170	17.0	2.18
6.16	21	13	15	32	18	6	49	12	0	19	185	18.5	2.57
6.17	24	15	24	13	21	6	12	3	0	13	122	12.2	1.66
6.18	59	31	15	19	31	4	10	1	1	21	201	20.1	2.63
6.19	53	22	15	17	41	10	9	0	0	9	176	17.6	2.15
6.20	45	28	8	14	35	12	8	0	0	6	156	15.6	2.11

(1) Regarding 'Concepts of Formative and Summative Evaluation of B.S. Bloom', their awareness was low and the mean Utilisation of the 'Sources was 14.4% as set out in Table 4.81.

(2) On 'Objective-based Testing and Examining', their awareness was above the average of the scale value and 18% was the mean Utilisation of the Sources of Information.

(3) On 'Criterion-referenced testing and examining', they had very poor awareness and the mean Utilisation of the Sources of Information was only 8.4%, the lowest value obtained on any item.

(4) Regarding Taxonomy of Educational Objectives by B.S.Bloom et al', their awareness was low and they had made 12.3% mean Utilisation of the Sources of Information.

(5) With regard to 'Improved Question paper construction', they were aware of something and the mean utilisation of the Sources of Information was 17.9%.

(6) They were aware a good deal of 'Objective-type Tests' and the mean Utilisation of the Information-sources was 23.0%.

(7) In the case of 'Structured Essay-type questions', they were aware of something and the mean Utilisation of the sources was 18.4%

(8) They had above average awareness of 'Diagnostic Tests', and their mean Utilisation of the Sources was 17.3%.

(9) Regarding 'Unit tests, their awareness was above the average scale value and their mean Utilisation was 16.9%.

(10) They were just aware of something regarding 'Open-book Examinations' and their mean Sources-utilisation was 13.3%. School contacts, and college library reading and the press were utilised by 22 and 21%, While the college faculty (formally) was utilised by only 18%.

(11) Their mean awarenessof 'Progressive and Cummlative Assessment was 2.38 and mean Sources-utilisation was 19.5%

(12) They were aware a good deal of 'Internal Assessment' and they had used multiple Sources of Information and the mean Utilisation was 26.0%, the highest among the 20 items in this category, Evaluation.

(13) They were aware of something on 'Question Item Banking' and had made 22.3% mean Utilisation of the Sources of Information.

(14) With Regard to 'Central Valuation of Examination answer-scripts', they were aware a good deal and their mean Utilisation of the Sources was 19.3%. 68% of them had mentioned that the school contacts was the channel of their information in this respect.

(15) In the matter of 'Increased objectivity in marking Answer-scripts by using a Scoring key etc.,' they were just aware of something. They had made 17% mean Utilisation of the Sources of Information.

(16) They had above average awareness of 'Comparamentalisation of Examination and made 18.5% mean Utilisation of the Sources. The most used Sources were the Press and the school contacts which were reported by 49 and 32% of the students respectively.

(17) Their awareness of 'Course evaluation' was poor and their mean utilisation was 12.2% only.

(18) Regarding 'Awarding Grades (either independently or based on percentages)' their awareness was above average scale value and their mean Utilisation Sources of Information was 20.1%.

(19) In the case of 'the Use of the technicque of Scaling of marks', their awareness was just above the average scale value and they had 17.6% as mean Utilisation of the ten Sources.

(20) They were aware of 'something' regarding' the use of Standard Scores' and the mean Utilisation of the Sources was 15.6%.

But for the three items, in this category of Educational Evaluation for all the items, the Utilisation of the ten Sources had a definite pattern. The Source coming on the top was the college faculty (formally) and college library reading followed this as the oft-mentioned second best Source. School contacts constituted the third best Source. The Radio and the T.V. played a negligible part as Sources of Information regarding Recent Development in Evaluation.

D.6.7: EDUCATION AND THE CURRICULUM:

TABLE.4.82: PERCENTAGE OF M.ED STUDENTS UTILISING THE TEN SOURCES OF INFORMATION FOR AWARENESS-KNOWLEDGE OF EDUCATION AND THE CURRICULUM:

Item No.	Ten Sources of Information										Total	Mean Utilisation	Weighted Mean Awareness
	1	2	3	4	5	6	7	8	9	10			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
7.1	41	17	17	54	22	10	29	9	3	24	226	22.6	3.06	
7.2	33	17	10	21	33	10	31	14	3	26	198	19.8	2.32	
7.3	38	17	12	18	44	6	17	4	0	18	174	17.4	2.19	
7.4	36	18	15	22	38	14	31	10	1	26	211	21.1	2.48	
7.5	62	33	18	17	51	27	35	13	1	24	281	28.1	3.11	
7.6	63	33	19	33	46	21	31	10	5	27	288	28.8	3.20	
7.7	59	29	21	32	51	21	53	13	4	29	312	31.2	3.25	
7.8	49	24	17	24	42	14	60	19	5	27	281	28.1	3.15	

(1) Regarding Compulsory Physical and Health Education, M.Ed students had a good deal of awareness. The made 22.6% mean Utilisation of the Sources of Information. Among ten sources, school contacts proved to be the most popular Source used because it was reported by 54% of them. The college faculty formally and the press were the other 2 sources used by 41 and 29% of them as set out in Table 4.82

(2) Regarding UNESCO-UNICEF Science, they were aware of something and they made 19.8% mean Utilisation of the Sources. The college faculty, College Library and the Press were the 3 major Sources utilised by approximately one-thid of the students.

(3) They were aware of something of the 'Integrated curriculum', They made 17.4% mean Utilisation of the Sources of Information. The College library as a Sources topped among the 10 Sources in the

matter of popularity and its use.

(4) Regarding Nutrition Education, they made a mean Utilisation of Sources to the order of 21.1%.

(5) In the matter of Population Education, they had a good deal of awareness. They made 28.1% mean Utilisation of the Information-Sources.

(6) On Work Experience in School Education, they showed a good deal of awareness and their Utilisation of Sources was also high, with the mean remaining at 21.8%.

(7) They had a good deal of awareness of Vocationalisation of Higher Secondary Education, and also made high use of multiple Sources, with the mean remaining at 31.2% the highest among the 8 items in this category.

(8) On the "Three Language Formula", they showed a good deal of awareness and the mean Utilisation of the Sources of Information was 28.1%. The Press was the most used Source, with 60% of them reporting it. They made a fair use of other Sources as well.

D:6:8 EDUCATION AND THE COMMUNITY:

The detailed particulars concerning the M.Ed. students' Utilisation of Sources of Information on Recent Developments in Education and the community were placed in Table:4.83.

Table:4.83: Percentage of the M.Ed. students Utilising the Ten Sources of Information for Awareness-Knowledge of Education and the Community:

Item No.	Ten Sources of Information										Total	Mean Utilisation	Weighted Mean Awareness
(1)	1. (2)	2. (3)	3. (4)	4. (5)	5. (6)	6. (7)	7. (8)	8. (9)	9. (10)	10. (11)	(12)	(13)	(14)
8.01	68	31	14	22	51	17	46	12	5	27	294	29.4	3.11
8.02	50	28	22	18	42	10	40	21	5	21	247	24.7	3.08
8.03	33	14	12	9	26	10	27	12	4	19	166	16.6	1.94
8.04	42	24	31	17	33	10	42	23	4	23	249	24.9	2.81
8.05	50	33	28	19	35	10	41	21	4	35	276	27.6	3.22
8.06	42	23	14	13	32	13	27	13	1	23	201	20.1	2.42
8.07	46	15	21	45	35	8	32	14	3	23	242	24.2	3.02
8.08	71	37	23	23	40	12	40	13	1	31	291	29.1	3.38
8.09	50	21	13	14	32	15	53	18	1	24	241	24.1	2.88
8.10	26	19	19	56	27	9	40	13	3	32	244	24.4	3.10
8.11	40	22	19	63	24	10	29	12	3	31	253	25.3	3.43
8.12	32	17	14	41	22	10	28	10	4	37	215	21.5	2.73

(1) On 'Equality of Educational Opportunity and the Education of the Disadvantaged Sections of the people', they had a good deal of awareness. They made 29.4% mean Utilisation of the Information-sources, as set out in Table:4.83.

(2) Regarding Non-Formal Education, they had good deal of awareness and had made 25.7% mean Utilisation of the Information-Sources.

(3) In the matter of Life-long Integrated Education, they had limited awareness. 16.6% was the mean of the Utilisation of

the Sources of Information.

(4) Regarding Correspondence Education (own-time education), they were aware of quite something. The mean utilisation was 34.8%. 42% of them had utilised the Press and the college faculty (formally) in this regard.

(5) They had a good deal of awareness of Evening College Courses (Part-time Education). The mean 'Utilisation of Sources of Information' was 27.6%.

(6) In the case of Functional Literacy Programme, their awareness was satisfactory. The mean utilisation was 27.6%.

(7) With regard to Book Banks in Schools & Colleges, they had high level of awareness and the mean Utilisation of Sources of Information was 24.2%.

(8) On Community and Social Service by College Students they had shown high level of awareness. They made considerable use of the Sources of Information and the mean Utilisation of Sources of Information was 29.1%. Further they themselves were engaged in this sort of programme as college students.

(9) They obtained 2.88 mean awareness score and 24.1% towards mean Utilisation of Sources of Information regarding the Open University. The most used source in this matter happened to be the Press.

(10) They obtained high mean awareness score of 3.10 on Mid-day Meals Scheme. The mean utilisation of Sources of Information was 24.4%. It was interesting to note that the school contacts contributed most towards their awareness-knowledge and that was followed by the Press as the second powerful source for this item.

(11) On 'Parent Teacher Association, they had a very high order of awareness. The mean Utilisation of Sources of Information was 25.3%. As could be expected, the school contacts served as the most potent source.

(12) Regarding School Improvement Projects through community support, they had above average awareness. The mean Utilisation of Sources of Information was 21.5%. The school contacts remained on this occasion too as the most used source of Information with 41% of them reporting its use.

D:6:9 EDUCATIONAL REPORTS :

The Particulars pertaining to M.Ed. students' Utilisation of the Sources of Information on Recent Developments connected with Educational Report could be seen in Table:4.84, given below:

Table:4.84: Percentage of the M.Ed. Students Utilising the Ten Sources of Information for Awareness-Knowledge of Educational Reports:

Item No.	Ten Sources of Information										Total	Mean Utilisation	Weighted Mean Awareness
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
9.1	71	14	10	12	58	12	10	5	3	9	205	20.5	2.96
9.2	37	22	9	6	45	9	6	0	0	3	137	13.7	1.67
9.3	65	27	14	9	58	17	14	3	3	14	224	22.4	2.85
9.4	18	13	4	6	21	5	1	0	0	3	71	7.1	1.02

(1) M.Ed. students had good deal of awareness of the University Education Commission Report, 1949 and they had made 20.5% mean Utilisation of the Sources of Information. 71% of

them mentioned that the college faculty (formally) was their Source and 58% had utilised their college libraries towards this as set out in Table:4.84.

(2)They had low level of awareness of the Report of the Committee on Rural Higher Education under the Chairmanship of Dr.K.L. Shrimali. Their mean Utilisation of the Sources was 13.7% only. Barring the College library and the college faculty, other sources had played a negligible role in building their awareness-knowledge.

(3)They were aware of 'more than something' regarding the Indian Education Commission Report entitled Education and National Development. They had made 22.4% mean Utilisation of the Sources.

(4)Their awareness of the Plowden Committee Report 1967 was very low and for this item their mean Utilisation of the Sources of Information was 7.1%, the lowest obtained for any item in the CLUSI.

D:6:10 : EDUCATIONAL PLANNING:

The details regarding the Utilisation of the Sources of Information on Recent Developments in Educational Planning by the M.Ed. students was placed in Table:4.85.

Table:4.85 : Percentage of M.Ed. Students Utilising the Ten Sources of Information for Awareness-Knowledge of Educational Planning:

Item No.	Ten Sources of Information on Recent Developments.										Total	Mean Utilisation	Weighted Mean Awareness
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
10.1	58	19	10	8	49	15	35	6	1	13	214	21.4	2.56
10.2	49	22	12	19	45	9	38	14	3	22	233	23.3	2.74
10.3	35	15	9	8	23	6	21	6	1	12	136	13.6	1.74
10.4	33	17	6	8	35	6	23	6	1	17	152	15.2	1.76
10.5	28	12	8	10	29	6	19	1	1	17	131	13.1	1.75
10.6	31	14	6	10	28	9	19	3	1	17	138	13.8	1.60
10.7	45	23	13	15	35	9	18	6	1	21	186	18.6	2.31

(1) Regarding'Planning for Equalisation of Educational Opportunity' M.Ed. students had more than average awareness and they had made 21.4% mean Utilisation of the Sources. It was interesting to note that 35% had used the Press, while 58 and 49% of them had used college faculty (formally) and College Library as Sources of Information as seen in Table.485.

(2) Regarding 'Planning for Higher Secondary Education' their awareness was well above the average. Their mean Utilisation of Sources of Information was 23.3%. Besides 49 and 45% of the students utilising the college faculty (formally) and their college libraries, 38% had used the dailies for developing their awareness-knowledge of the item.

(3) Their awareness was well below the average regarding 'Planning a multiple entry and exit system of education'. They had made 13.6% mean Utilisation of Sources of Information.

(4) Their awareness of 'Man-power Planning' was well below the average and the mean Utilisation of Sources of Information was 15.2%. While 35% had used the college faculty (formally) in this matter.

(5) Their awareness of'Institutional Planning' was below the average and the mean Utilisation of Sources of Information was 13.1% and this was the lowest for any item under 'Educational Planning'.

(6) In the case of 'Economics of Education', they had low level of awareness and the mean Utilisation of Sources of Information was 13.8%.

(7) 'In respect of 'Educational Survey', their awareness was above the average and the mean Utilisation of Sources of Information was 18.6%.

In the over-all analysis of the category, Educational Planning, the M.Ed. students were found to show a fairly low level of awareness of the 'Approaches to Planning' and they did better in the cases of the 'Plan' and 'Policy and Planning'. In the matter of Utilisation of the Sources of Information, a comparable pattern was noticeable. Among the ten sources, the college faculty (formally), College Library reading, and the Press were the chief three sources, utilised. Further a smaller percentage of the students reported the Utilisation of the college faculty for this category as compared to the other categories.

D:6:11 : <u>EDUCATIONAL LITERATURE</u>:

Howfar the M.Ed. students had utilised the different Sources of Information on Educational Literature could be seen in

Table:4.86 and the Weighted Mean Awareness of the items was also included in that table.

Table:4.86: Percentage of M.Ed. Students Utilising the Ten Sources of Information for Awareness-Knowledge of Educational Literature:

Item No.	Ten Sources of Information on Recent Developments										Total	Mean Utilisation	Weighted Mean Awareness
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
11.1	27	13	22	62	23	8	14	6	1	15	191	19.1	2.60
11.2	45	14	18	40	33	13	3	1	4	10	181	18.1	2.37
11.3	36	13	5	6	24	6	5	1	0	9	105	10.5	1.49
11.4	27	13	9	8	28	6	8	4	1	10	114	11.4	1.35

(1) M.Ed. students had above average awareness of work-book for students and the mean Utilisation of Sources of Information was 19.1%. The Most used source for this item was 'the School Contacts' reported by 63% of the students as presented in Table.4.86.

(2) They had some awareness of 'Programmed texts' and the mean utilisation of Sources of Information was 18.1%. 40% of the students attributed their awareness-knowledge to their school contacts.

(3) They showed low level of awareness with regard to 'Taxonomy of Educational objectives volume I. Cognitive Domain by Bloom et al' and the mean Utilisation of Sources of Information was 10.5% only.

(4) Similarly they had low level of awareness of 'Taxonomy of Educational objectives, Volume II (Affective Domain) by

D.R.Krothwohl et al' and the mean Utilisation of Sources of Information was 11.4%.

D:6:12 EDUCATIONAL AGENCIES:

The details connected with the M.Ed. Students' Utilisation of Sources of Information on Recent Developments associated with the Education Agencies could be read in Table:4.87.

Table:4.87: Percentage of M.Ed. Students Utilising the Ten Sources of Information for Awareness-Knowledge of Educational Agencies:

Item No.	Ten Sources of Information on Recent Developments.										Total	Mean Utilisation	Weighted Mean Awareness
(1)	1. (2)	2. (3)	3. (4)	4. (5)	5. (6)	6. (7)	7. (8)	8. (9)	9. (10)	10. (11)	(12)	(13)	(14)
12.01	51	26	18	16	49	13	41	5	3	31	253	25.3	3.00
12.02	53	23	18	17	44	13	32	6	1	26	233	23.3	2.78
12.03	37	21	10	14	29	6	17	3	1	13	151	15.1	1.92
12.04	27	15	13	5	24	1	26	4	0	14	129	12.9	1.46
12.05	22	22	21	17	22	6	26	8	3	32	179	17.9	2.21
12.06	40	18	23	29	32	5	27	15	1	22	211	21.1	2.53
12.07	47	23	21	18	35	12	28	10	4	22	220	22.0	2.81
12.08	10	10	6	4	17	6	18	4	3	17	95	9.5	1.24
12.09	41	21	13	14	26	8	26	10	1	21	181	18.1	2.20
12.10	22	12	15	22	15	8	27	8	3	27	159	15.9	1.70
12.11	63	35	17	22	49	16	40	15	4	32	293	29.3	2.96
12.12	37	18	8	8	29	10	21	6	0	15	152	15.2	1.75
12.13	47	29	12	12	41	19	41	14	1	26	242	24.2	2.62
12.14	13	12	6	5	18	1	24	5	1	14	99	9.9	1.30
12.15	14	14	5	5	23	6	32	4	1	15	119	11.9	1.28

(1) M.Ed. students had a good deal of awareness of the 'State Council of Educational Research and Training (SCERT), Madras' and their mean Utilisation of Sources of Information was 25.3%. It was interesting to note that 41% of them attributed their awareness-knowledge to the Press in this respect and thus reflecting the big way in which the Press had played a role in dissemination of developments relating to new agencies in education.

(2) They had above average awareness of 'The State Institutes of Education' and the mean Utilisation of Sources of Information was 23.3%.

(3) They showed very limited awareness of the 'Examination Reform Units in select Universities' and the mean Utilisation of Sources of Information was 12.9% only.

(4) They had limited awareness of the State Evaluation Units and the mean utilisation of Sources of Information was 15.1%.

(5) They were aware of something relating to the 'Technical Techers' Training Institute (Southern Region, Madras) and their mean Utilisation of Sources of Information was 17.9%.

(6) They were aware of something of the Regional Institute of English, (Southern Region), Bangalore, and their mean Utilisation of Sources of Information was 21.1%. Besides the college faculty (formally), College library reading serving as major channels of information,& school contacts had helped 29% of them.

(7) In the case of the 'Regional Colleges of Education' their awareness was high and the mean Utilisation of Sources of Information was 22.0%.

(8) With regard to the 'Rural Higher Institutes', they showed

the least awareness among the fifteen agencies listed and the mean Utilisation of Sources of Information being 9.5% happened to be the least. Similarly the college faculty had a very insignificant role to play in serving as a channel of information on the item. The Press had figured as the top Source, reportedly used by 18% of the students.

(9) Regarding the 'Central Institute of English and Foreign Languages, Hyderabad, their awareness was quite something and the mean Utilisation of Sources of Information was 18.1%.

(10) They had limited awareness of the 'Kendriya Vidyalaya Sangathan' and the mean Utilisation of Sources of Information was 15.9%. The Press was the top-source with 27% mentioning it followed by 'School contacts' and 'the college faculty formally', both reported to have been utilised by 22% of students.

(11) They had a good deal of awareness of the 'National Council of Educational Research and Training', New Delhi' and the mean Utilisation of Sources of Information was 29.3%, that being the highest among the fifteen items classified under Educational Agencies. The College faculty formally and informally had figured in no mean way in dissemination of Developments pertaining to the item.

(12) Regarding the 'Indian Council of Social Science Research (ICSSR), New Delhi' they showed limited awareness. The mean Utilisation of Sources of Information was 15.2%.

(13) In the matter of the UGC, they had satisfactory awareness and the mean Utilisation of Sources of Information was 24.2%

The Press and the college library constituted two important channels of dissemination, following the lead of the college faculty.

(14) They had a low order of awareness regarding the 'Association of the Indian Universities, New Delhi' and the mean Utilisation of Sources of Information remained at 11.9% only. The College faculty had a very small share as a channel of dissemination with only 14% availing it. The Press topped the list of ten Sources being marked by 32% of the students.

(15) Their awareness of the 'UNESCO' Regional Office for Education in Asia, Bangkok' at the international level was the poorest among all the fifteen agencies that found a place in the list. The Press and the College library had been utilised by a larger number of students than the 'College faculty', as Sources.

D:6:13 : CONCLUSION :

(1) In the M.Ed. sample, 42.61% of them, on an average, had utilised the College Faculty (formally) as one of the ten Sources of Information for developing their Awareness-knowledge of Recent Developments in Education, vide Appendix XXVIII B. for particulars regarding category-wise Average Utilisation of Sources of Information by M.Ed. Students. The M.Ed. students had made the highest (64,2%) utilisation of this Source for Category III-Educational Psychology and the lowest use (32.5%) for the category IV-Educational Management and Administration.

(2) They had utilised college Library Reading as the Second best utilised Source actually, since its mean utilisation was 33.2%. The college Library's utilisation was ranging from 25.1% for the category IV. Educational Management and Administration to 45.5% for the category IX - Educational Reports.

(3) The Press was utilised by 21.5% of M.Ed. students. Its mean utilisation was lowest (7.2%) for the Category III- Educational Psychology and it was highest (40.5%) in the case of catogory I-Education and the state. The Press as a Source of Information on Recent Developments in Education was perhaps, making its principal contribution in disseminating matters of education relating to the state and the different levels of government of the country.

(4) The M.Ed. students' mean Utilisation of School contacts was 21.0% and school contacts had been used most for developing Awareness-knowledge concerning category II- Education and the Teachers because this was reported by 31.01% of the students. The least mean utilisation(8.3%) was in connection with category IX - Educational Reports. The bulk of the majority of M.Ed. students were inservice teacher candidates, and it was natural, that they should get their Awareness-knowledge of Recent Developments relating to Teachers through their School contacts.

(5) The college Faculty (informally) had been utilised by 19.1 % on an average for their Awareness-knowledge of 130 items of Recent Developments in Education. The lowest mean Utilisation of the College Faculty (informally) as a source was 13.3% with regard to category XI - Educational

Literature and the highest mean Utilisation was 23.7% for category VIII-Education and the Community.

(6) The Mean Utilisation of Class-mates as a Source of Information was 13.4% among the M.Ed. students. The highest Utilisation of this Source was for the category VIII - Education and the community since the mean utilisation was 19.3%. The least Utilisation of this Source was in relation to category X - Educational Planning for the mean Utilisation was only 9.1%.

(7) Public Library reading had a total average utilisation by 10.2% of M.Ed. students. Its highest use was with reference to category VIII - Education and the curriculum for it had mean Utilisation of 15.4%. Its lowest utilisation occured with respect to Category IV - Educational Menagement and Administration as 6.9% was the mean Utilisation of the Source. The Radio and the T.V.had mean utilisation of 6.9% and 1.7% respectively among the M.Ed. students.

(8) Finally the M.Ed. students' total average utilisation of all the Sources of Information was only 18.503%. Though this was slightly higher than that of the B.Ed. sample, yet it gave the impression that Utilisation of Sources of Information could be considerably improved especially at the post-graduate stage of teacher-education.

D : 7 : Comparative Study of Utilisation of Sources of Information by the B.Ed. and the M.Ed. students:

In the comparative study of the Utilisation of the Sources of Information of B.Ed. and M.Ed. students, the M.Ed. students had a very slight advantage over the B.Ed. students.

Table:4.88: Total Number of Items of Recent Developments in Education at four levels of Mean Utilisation of Sources of Information by the B.Ed. and M.Ed. Samples:

S.No.	Mean Utilisation of Sources of Information (In Percentage)	No. of Recent Developments in Education	
		B.Ed.Sample	M.Ed.Sample
1.	30.00 and above	1	1
2.	20.00 to 29.99	41	47
3.	10.00 to 19.99	82	78
4.	Below 10.	6	4
	T o t a l	130	130

With respect to Table:4.88, it could be observed that while there were 41 items under Recent Developments in Education (RDE) for which the B.Ed. students had a Mean Utilisation of Sources of Information ranging from 20.00 to 29.99%, there were 47 items in the same category of Mean Utilisation of Sources of Information (MUSI) for the M.Ed. student sample. While there were 82 items under RDE in the range of 10.00 to 19.99% Mean Utilisation of Sources of Information for the B.Ed. sample, there were only 78 items in that category of MUSI for the M.Ed. sample. Lastly there were 6 items having MUSI below 10% in the B.Ed. sample, whereas there were 4 in that category in the M.Ed. sample. This indicated the slight edge that the M.Ed. sample had over the B.Ed. sample.

Table.4.89 : The actual proportion of Utilisation of the Different Sources of Information relating to Recent Developments in Education in the B.Ed. and M.Ed. samples and the Rank Status associated therewith:

Sr. No.	Different Sources of Information on Recent Developments	B.Ed. Sample		M.Ed. Sample	
		Proportion of Utilisation	Rank Status	Proportion of Utilisation	Rank Status
1.	College Faculty (formally):	0.27	1	0.23	1
2.	College Faculty (informally)	0.12	3	0.10	5
3.	Class-mates	0.07	7	0.07	7
4.	School Contacts	0.09	5.5	0.11	3.5
5.	College Library reading	0.15	2	0.18	2
6.	Public Library reading.	0.05	9	0.06	8
7.	The Press	0.10	4	0.11	3.5
8.	The Radio	0.06	8	0.04	9
9.	The TV	0.01	10	0.02	10
10.	Others	0.09	5.5	0.09	6

Both the B.Ed. and M.Ed. students utilised the College Faculty (formally) most and it ranked first in terms of proportion of utilisation of Sources of Information, as presented in Table: 4.89. However, the B.Ed. students had used that Sources to a larger proportion in their total utilisation of the Sources of Information. College library reading had come with rank - 2 status. It was a healthy reflection of the student-teachers' study habits that their own own reading in the College Library constituted the second best Source of Information.

The fact to get the last rank as a Source indicated that a lot remained to be done in developing and better utilising modern media for educational use. For the purpose of identifying the best known and the least known items under Recent Developments in Education, in B.Ed. and M.Ed. samples, the ten items ranked 1 to 10 and another ten items ranked 60 to 69 (the last ten ranks), on the basis of the Facility Value of the items for each sample were picked up. Besides it was expected with such a presentation of analysis, it would be possible to show that the best known items and the least known items would be known to larger percentage of M.Ed. students than the B.Ed. students, judged by the Average Facility value of the 10 items in each case.

Table:4.90 : The top ten items of Recent Developments in Education of which the B.Ed. students were most aware and the Corresponding Mean Utilisation of the Sources of Information (Mean USI):

S. No.	Recent Developments-Item Statements		Weighted Mean Awareness	Mean USI
1.	Free & Compulsory Primary Education	:	3.48	25.8
2.	Internal Assessment.	:	3.34	24.1
3.	The University Education Commission Report (Dr.S.Radhakrishnan) 1949.	:	3.31	20.6
4.	National Structure & Pattern of Education (10+2+3).	:	3.29	30.1
5.	Indian Education commission Report, entitled 'Education & National Development(Dr.D.S.Kothari) 64-66.	:	3.29	13.1
6.	Community & Social Service by College Students.	:	3.28	24.4
7.	Objective type Tests.	:	3.18	23.7
8.	Parent Teacher Association.	:	3.17	23.4
9.	Teaching Models.	:	3.15	23.5
10.	Book Banks in Schools & Colleges.	:	3.15	23.8
	Average	:	3.26	23.25

There was a strong correspondence between their average Utilisation of Sources of Information and the level of awareness of the Recent Developments in Education. Among the most popular ten Recent Developments in Education with the exception of one, all of them had a mean Utilisation of Sources of Information higher than 20% as set out in Table:4.90. Vide Appendix XXVIII A for particulars on Recent Developments in Education arranged in Rank order, based on the Awareness of B.Ed. students.

Table: 4.91 : The bottom ten items of Recent Developments in Education of which the B.Ed. students were least aware and their corresponding Mean Utilisation of the Sources of Information (MUSI):

S. No.	Recent Developments-Item Statements	Weighted Mean Awareness	Mean USI
1.	Plowden Committee Report on "Children and their Primary Schools".	0.89	8.8
2.	Taxonomy of Educational Objectives Vol.II (Affective (Domain)(David R.Krothwohl et al	0.96	8.8
3.	Concepts of Formative & Summative Evaluation (B.S.Bloom).	1.02	11.9
4.	Ned Flanders' Interaction Analysis	1.04	10.1
5.	Taxonomy of Educational Objectives,Vol.I Cognitive Domain (Bloom et al) 1956.	1.07	9.5
6.	Simulation	1.17	13.1
7.	Taxonomies of Educational Objectives.	1.19	14.0
8.	Brain Storming	1.24	12.2
9.	Criterion-reference Testing & Examining.	1.28	12.4
10.	Closed circuit Television for Educational use.	1.28	13.4
	Average	1.11	11.42

Once again a strong correspondence between the students' average Utilisation of Sources of Information and the level of awareness was noticeable as shown in Table:4.91. The average utilisation of Sources of Information for the least aware ten Recent Developments was only 11.42% compared to the average utilisation of 23.25% of the ten Recent Developments of Education of which the B.Ed. Students were most aware.

Table:4.92 : The top ten Recent Developments in Education of which the M.Ed. students were most aware and the Corresponding Mean Utilisation of the Sources of Information (MUSI):

S. No.	Recent Developments-Item Statements	Weighted Mean Awareness	Mean USI
1.	Free and Compulsory Primary Education :	3.44	26.7
2.	Parent Teacher Association. :	3.43	25.3
3.	Community and Social Service by College Students. :	3.38	20.1
4.	In-service Education and Training of Teachers. :	3.37	26.0
5.	National structure & pattern of Education (10 + 2 + 3) :	3.28	29.5
6.	Vocationalisation of Higher Secondary Education. :	3.25	31.2
7.	Evening College courses (Part-time Education). :	3.22	27.6
8.	Work Experience in School education. :	3.20	28.8
9.	Teaching Models :	3.18	23.0
10.	The three Language formula :	3.15	28.1
	Average :	3.29	27.53

The Table:4.92 had shown that for the top ten Recent Developments the average Utilisation of the Sources of Information was 27.53% and the minimum of Mean Utilisation was 23.0% for an item. Vide Appendix XXVIII B for the particulars on Recent Developments in Education arranged in rank order based on the awareness of M.Ed. students.

Table: 4.93: The bottom ten Recent Developments in Education of which the M.Ed. students were least aware and the corresponding Mean Utilisation of the Sources of Information:

S. No.	Recent Developments-Item Statements.	Weighted Mean Awareness	Mean USI
1.	Plowden Committee Report on 'Children and their Primary Schools'	1.02	7.1
2.	Criterion-referenced testing and examining.	1.18	8.4
3.	Rural Higher Institutes.	1.24	9.5
4.	Educational Management by Objectives	1.26	10.2
5.	UNESCO Regional Office for Education in Asia, Bangkok.	1.28	11.9
6.	Association of Indian Universities, New Delhi.	1.31	9.9
7.	Professional Autonomy of teachers.	1.34	11.3
8.	Taxonomy of Educational objectives. Vol.II (Affective Domain)	1.35	11.4
9.	Human Relations and Communications in Management.	1.38	10.9
10.	Examination Reform Units in select Universities.	1.46	12.9
	Average:	1.28	10.34

The table 4.93 had shown that the highest mean Utilisation of Sources of Information for any item among the ten Recent

Developments of which the M.Ed. students were the least aware was only 12.9%. The average Utilisation of Sources of Information was 10.34% for the bottom ten Recent Developments. When the level of Awareness was low and the vice versa could also be true with reference to the B.Ed. and M.Ed. student populations of Madras University.

Comparing the Pattern of Utilisation of the Sources Information of B.Ed. and M.Ed. students:

(1) The actual percentage of B.Ed. and M.Ed. students utilising the ten Sources of Information for gaining their Awareness-knowledge on the twelve categories of the Recent Developments in Education was presented in Appendix XXIX.

(2) A larger percentage of B.Ed. students (47.81) utilised the college faculty formally than M.Ed. students (42.61). Similarly a larger percentage of B.Ed. students utilised the college faculty informally (20.7) compared to M.Ed. students (19.1). Ten Percent of B.Ed. students utilised the Radio while it was 6.9% in the case of M.Ed.students.

(3) M.Ed. students excelled B.Ed. students in terms of the percentage of students reporting the Utilisation of (i) Class-mates (ii) School contacts, (iii) College Library reading, (iv) Public Library reading and (v) The Press as Sources of Information on Recent Developments in Education. In the over-all utilisation of the ten Sources of Information, the mean for the M.Ed. group was 18.503% and the mean for the B.Ed. group was 17.789%. It was appropriate that the post-graduate class of students should score more on Utilisation of Sources of Information compared

to the under-graduate class of students.

(4) In Appendix XXX the comparative study of proportion of actual Utilisation of the ten Sources of Information by B.Ed. and M.Ed. students for developing awareness-knowledge on 12 categories of Recent Developments in Education was presented. The proportion of utilisation of the inter-personal sources by combining the first four sources namely (1) College faculty (formally), (ii) college faculty (informally), (iii) class-mates and (iv) school contacts was 0.55 in the B.Ed. group and 0.51 in the M.Ed.group.

(5) For all the twelve categories, for both the B.Ed. and M.Ed. student-groups, the highest used Source among the ten was the 'College faculty (formally)'. Obviously this suggested that the formal lectures, tutorial group presentations and presentations by the college faculty in such structured situations constituted still the largest Sources of Information on Recent Developments in Education. The second major Source of Information was the 'College faculty(informally)' for the B.Ed. students. However in the M.Ed. student population the third place was shared between School contacts and the Press. The M.Ed. students being mostly in-service candidates utilised their colleagues in the school context for their knowledge of Recent Developments. Perhaps as an experienced group, they had developed better skills in utilising the Press for gaining awareness and knowledge of the Recent Developments in Education. The T.V. the Radio and Public Library reading were the Sources that were utilised to a limited extent by the B.Ed. and the M.Ed. student-populations.

Probably in the Indian context, these Sources had not yet become very useful for the professional education and training of teachers.

(6) In this investigation, one of the basic postulates had been the more the students had been exposed to the Sources of Information on the RDE, they would be sensitised to them and acquire their knowledge of them. In the checklist on Utilisation of Sources of Information, against the 130 Recent Developments ten Sources of Information were provided. In the ultimate analysis, it was established that M.Ed. students utilised 1.87 Source per item of Recent Development while the B.Ed. students utilised 1.80 source per item of Recent Development. It was difficult to assess whether this constituted adequate Utilisation of the Sources of Information. Perhaps the Utilisation was not certainly high. In the absence of such research studies in the Indian context, this study could acquire importance for researchers to come.

(7) In the Indian context, study habits and patterns night be such that people utilise one or two Sources and learn things largely from the examination point of view. In colleges of Education students might have to be re-orientated so that they learn to utilise multiple Sources of Information as a step towards Professional Socialisation.

D:8 Knowledge of Recent Developments in Education of the B.Ed. and the M.Ed. Students:

(1) The B.Ed. and M.Ed. students took the objective Test on Knowledge of Recent Developments in Education at the terminal stage of B.Ed. and M.Ed. courses. The test had 69 objective

type test items and all belonged to the knowledge category of Bloom's Taxonomy of Educational Objectives. These 69 items were only a sample of the 130 items of Recent Developments listed in the Scale of Awareness of Recent Developments in Education.

(2) Based on the performance of the students, the Facility value of the 69 items for the B.Ed. and M.Ed. groups were computed separately and on the basis of the facility values, the items were ranked in status separately for the B.Ed. and M.Ed. groups. Vide Appendix XXXI for detailed particulars on Facility Value and rank status of the test items.

(3) M.Ed. students, as expected, performed better consistently in the test than B.Ed. students.

Table:4.94: Comparative Performance of B.Ed. & M.Ed. students of Madras University on the Test of Knowledge of Recent Developments in Education:

S. No.	Percentage of students giving correct answers.	Number of test items answered correctly in each group. B.Ed.	M.Ed.
1.	Above 60	8	36
2.	Above 50	26	46
3.	Above 40	39	56
4.	Above 30	57	63
5.	30 and below	12	6

(4) 36 Items out of 69 were answered correctly by more than 60% of M.Ed. students while in the case of the B.Ed. group only 8 items were answered correctly by more than 60% of the students as mentioned in Table:4.94. Similarly at the lower end, 30 and less than 30% of the B.Ed. students could answer 12 test items while in the case of the M.Ed. students

there were only 6 such items that were answered by 30 and less percentage of the students.

(5) In the test, all but six items discriminated in favour of the M.Ed. student group, as revealed by the facility value of the items for both the B.Ed. and the M.Ed. student groups. For the following six items of Recent Developments in education, the B.Ed. student group had a higher facility value expressed in percentage compared to the M.Ed. student group.

i) National structure and pattern of education(10+2+3)
ii) Activity based Method of Teaching and Learning.
iii) Micro teaching.
iv) Progressive and Cumulative Assessment.
v) The three Language formula.
vi) Non-formal Education.

(6) When the facility value of all the items of the test was averaged for the two student-group separately, the average facility value of the test fof B.Ed. students was 43.33% and for the M.Ed. students it was 58.93%.

(7) On the basis of the facility value of the test items for each student-group, the test items were placed in rank order. In Appendix XXXII A and XXXII B the details regarding the B.Ed. and M.Ed. groups were placed respectively.

The following were the top ten items of Recent Developments known to the B.Ed. group, together with their Facility value:

i)	Demonstration Method	:	75%
ii)	Guidance and counselling	:	71%
iii)	Work experience in School Education	:	68%
iv)	Parent-Teacher Association	:	67%
v)	Question/item Banking	:	65%
vi)	Achievement Motivation	:	64%
vii)	The University Education Commission Report.	:	63%
viii)	Population Education.	:	61%
ix)	Class room Climate	:	60%
x)	Teaching Models.	:	60%
	Average Facility Value	:	65%

(8) The following were the top ten items of Recent Developments in Education known to the M.Ed. student-group, together with their Facility Value:

i)	Open-shelf library (Open-access).	:	95%
ii)	Class-room Climate	:	91%
iii)	Vocationalisation of Higher Secondary Education.	:	85%
iv)	National Policy on Education, 1968.	:	82%
v)	Achievement Motivation.	:	82%
vi)	Planning for Higher Secondary Education	:	82%
vii)	Guidance and Counselling.	:	81%
viii)	Nationalisation of School Text-books	:	79%
ix)	Demonstration Method.	:	79%
x)	Remedial Teaching.	:	79%
	Average Facility Value	:	84%

(9) The following were the bottom ten items of Recent Developments in Education known to the B.Ed. student group together with their Facility Value:

i)	Objectives-based Testing and Examining.	:	16%
ii)	The School Complex Programme	:	20%
iii)	Compulsory Physical & Health Education	:	24%
iv)	In-service Education and Training of teachers.	:	24%
v)	Functional Literacy Programme	:	25%
vi)	The three Language formula	:	25%
vii)	Integrated curriculum	:	25%
viii)	Diagnostic Tests	:	26%
ix)	Ned Flanders' Interaction Analysis	:	27%
x)	Improved Question Paper Construction	:	29%
	Average Facility Value	:	24%

(10) The following were the bottom ten items of Recent Developments in Education known to the M.Ed. student-group together with their Facility Value:

i)	The three Language formula	:	17%
ii)	Activity based Method of Teaching & learning.	:	19%
iii)	Integrated Curriculum	:	28%
iv)	Compulsory Physical & Health Education	:	28%
v)	Ned Flanders' Interaction Analysis	:	28%
vi)	Micro-teaching	:	29%
vii)	Increased Objectivity in Marking Answer-scripts by using a scoring key etc.	:	31%
viii)	Objective-based Testing and Examining	:	31%
ix)	Mixed Ability Grouping of Pupils.	:	36%
x)	Non-formal Education	:	37%
	Average Facility Value	:	28%

(11) The Average Facility Value of the best and least known 10 items were 65% and 24% in the B.Ed. sample and 84%

and 28% in the M.Ed. sample. While the best known 10 Recent Developments in Education were known to 65% of B.Ed. students, in the M.Ed. sample, they were known to 84% of the students. Similarly while the least known 10 Recent Developments in Education were known to 24% of B.Ed. students, they were known to 28% in the M.Ed.sample.

D:9 Comparing Knowledge of certain Recent Developments with Awareness and Utilisation of Sources of Information related to them :

Introduction:

With the objective of analysing and showing the triangular relationships between the three educational variables, Awareness of Recent Developments in Education, Knowledge of Recent Developments in Education and Utilisation of the Sources of Information the best known and the least known ten items of Recent Developments in Education in both the B.Ed. and M.Ed. samples were chosen and the Average Facility Value, Mean Awareness and Mean Utilisation of the top ten items were compared with similar values associated with the bottom ten items in each sample. It was expected that Facility Value, Mean Awareness and Mean Utilisation of the Sources of Information would be higher for the best known 10 items than the least known 10 items under Recent Developments in Education in each sample. Subsequently the two samples were compared to test the null hypothesis in this respect that the M.Ed. performance in these educational variables would not be significantly higher than that of the B.Ed. students.

Table:4.95: The Facility value of the top ten items of Recent Developments for B.Ed. student-group Weighted Arithmetic Mean Awareness and the Percentage of Utilisation of Sources of Information of the items:

S.No. (1)	Item Description (2)	Facility Value % (3)	Mean Awareness (4)	Mean USI % (5)
i.	Demonstration Method	: 75	3.07	22.3
ii.	Guidance and Counselling	: 71	2.87	22.3
iii.	Work Experience in School Education.	: 68	3.03	25.1
iv.	Parent Teacher Association	: 67	3.17	23.4
v.	Question/Item Banking.	: 65	2.31	17.8
vi.	Achievement Motivation.	: 64	2.73	19.9
vii.	The University Education Commission Report.	: 63	3.31	20.2
viii.	Population Education	: 61	2.66	23.7
ix.	Class-room Climate	: 60	2.89	20.3
x.	Teaching Models.	: 60	3.15	23.5
	Average	: 65.4	2.919	21.85

As set out in Table:4.95, the Average Facility Value for the best known ten items of Recent Developments in Education for B.Ed. students of University of Madras was 65.4%. The average weighted Awareness score was 2.92 against the theoretical maximum scale value of 4. The average Utilisation of the Sources of Information on Recent Developments for the top-known items was 21.85%.

Table:4.96: The Facility value of the least known ten items of Recent Developments for B.Ed. student-group. Weighted Arithmetic Mean Awareness and the Percentage of Utilisation of Sources of Information of the items:

S.No. (1)	Item - Description (2)	Facility Value %. (3)	Mean Awareness (4)	Mean USI % (5)
i.	Objectives-based Testing and Examining.	: 16	2.44	19.1
ii.	The School Complex Programme.	: 20	1.81	16.2
iii.	Compulsory Physical and Health Education.	: 24	3.10	27.4
iv.	In-service education and Training of Teachers.	: 24	3.08	24.3
v.	Functional Literacy Programme.	: 25	2.00	17.4
vi.	The three Language formula.	: 25	3.13	28.4
vii.	Integrated Curriculum.	: 25	2.46	20.5
viii.	Diagnostic Tests.	: 26	2.76	19.1
ix.	Ned Flanders' Interaction Analysis.	: 27	1.04	10.1
x.	Improved Question Paper construction.	: 29	2.41	19.4
	Average	: 24.1	2.42	20.2

As shown in Table:4.96 the average facility value for the least known ten items of Recent Developments in Education for the B.Ed. students group was 24.1%. The average weighted awareness for these ten items was 2.42 against the theoritical scale maximum of 4. The average percentage of Utilisation of the Sources of Information for these least known items was 20.2%.

It appeared that Awareness of the Recent Developments in Education and Utilisation of the Sources of Information on Recent Developments

were related to objectively tested knowledge of the Recent Developments. Better Awareness and better Utilisation of the Sources were associated with the best known ten items of Recent Developments. In the case of the least known ten items of Recent Developments, the average Awareness and Average Utilisation of Sources of Information were found to be less in the B.Ed. student-group.

Table:4.97: The Facility Value of the top ten items of Recent Developments for the M.Ed. student-group, Weighted Arithemetic Mean Awareness and the percentage of Utilisation of Sources of Information of the items:

S.No. (1)	Item-Description (2)	Facility value % (3)	Mean Awareness (4)	Mean USI % (5)
i.	Open Shelf Library	95	2.18	15.7
ii.	Class-room Climate	91	2.69	20.1
iii.	Vocationalisation of Higher Secondary Education.	85	3.25	31.2
iv.	National Policy on Education, 1968.	82	2.02	17.4
v.	Achievement Motivation	82	2.35	16.7
vi.	Planning for Higher Secondary Education.	82	2.74	23.3
vii.	Guidance and Conselling	81	2.79	23.2
viii.	Nationalisation of School Text-books.	79	2.96	24.4
ix.	Demonstration method	79	3.10	24.4
x.	Remedial Teaching	79	2.27	16.6
	Average:	83.5	2.635	21.30

As shown in Table:4.97, the average Facility Value for the best known ten items of Recent Developments in Education was 83.5%. for the M.Ed. Students-group. The average weighted mean Awareness for the top ten items was 2.635 and the average Utilisation of the Sources of Information on these Developments was 21.3%.

Table 4.98: Facility Value for the least known ten items of the Recent Developments in Education for the M.Ed. Student-group, Weighted Arithmetic Mean Awareness and the Percentage of Utilisation of the Sources of Information of the items.

S.No. (1)	Item-Description (2)	Facility Value % (3)	Mean Awareness (4)	Mean USI % (5)
i.	Objectives-based Testing and Examining. :	17	3.15	28.1
ii.	The School Complex Programme :	19	2.77	20.8
iii.	Compulsory Physical and Health Education. :	28	2.19	17.4
iv.	Inservice Education and Training of Teachers. :	28	3.06	22.6
v.	Functional Literacy Programme :	28	2.39	16.9
vi.	The three Language formula :	29	2.93	23.7
vii.	Integrated Curriculum :	31	2.18	17.0
viii.	Diagnostic Tests :	31	2.45	18.0
ix.	Ned Flanders' Interaction Analysis. :	36	1.83	14.5
x.	Improved Question-paper construction. :	37	3.08	25.7
	Average :	28.4	2.603	20.47

As set out in Table:4.98, the average facility value for the least known ten Recent Developments in Education among the M.Ed. students was 28.4%, the Weighted mean awareness was 2.603 and the mean USI was 20.47% . Though the mean awareness and USI were less for the least known ten compared to the best Known ten Recent Developments in Education, yet the differences were not wide and significant in the M.Ed. student-group.

CONCLUSION :

One of the objectives of this research work was to establish the relationship between the educational variables chosen for investigation. While examining the Facility Value of the top ten items of Recent Developments in Education both for the B.Ed. and M.Ed. sample, the Mean Awareness and Mean Percentage of Utilisation Sources of Information were found to be high. Similar on examining the bottom ten items of Recent Developments in Education in both the B.Ed. and M.Ed. samples, it was observed that the Mean Awareness and Mean Percentage of Utilisation of Sources of Information were lower. In other words, when knowledge of the top ten items were high average awareness of those items and Utilisation of Sources of Information were found to be high. When Knowledge was low regarding the bottom ten items of Recent Developments in Education, the average awareness and Utilisation of Sources relating to them were lower. This indicated that there were definite relationships between these variables and they deserved further study in terms of product moment correlation, partial Correlation and multiple Correlation, which would be taken up in subsequent section.

SECTION : 4

(E) THE CORRELATES OF AWARENESS AND KNOWLEDGE OF RECENT DEVELOPMENTS IN EDUCATION - A STUDY OF LINEAR CORRELATIONS:

E:1 Introduction :

Awareness of Recent Developments in Education and Knowledge of Recent Developments in Education had been considered important for the B.Ed. and M.Ed.Students, as discussed at length in the earlier chapters of this thesis. It was expected that such student-teachers who had adequate Awareness and Knowledge of Recent Developments in Education at the time of completing their B.Ed. and M.Ed. courses would prove to be professionally completent teachers later. The other three educational variables in this study with regard to B.Ed. and M.Ed. students were their Utilisation of the Sources of Information, Professional Teacher Attitude and Grade Point Average. A knowledge of the interrelationship among these five educational variables would be useful to teacher-educators and educational researchers. In this section, the analysis of data was directed towards meeting the objective of studying the inter-relationships among these five eudcational variables and with special reference to identifying the correlates of Awareness and Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. samples separately. The mode of analysis followedtowards thise objective was the use of the product moment method of linear inter-correlations among the five variables in this section of this Chapter. The next section of this chapter had been used towards the objective of studying the inter-relationship among the five educational variables, but then,

the mode of analysis was different, involving the multiveriate analysis approach and the use of partial correlations of the first, second and third order. In the sixth section, the analysis of data was directed towards the objective of predicting Awareness and Knowledge of Recent Developments in Education of B.Ed. and M.Ed. student populations, treating the other three educational variables viz. Utilisation of Sources of Information on Recent Developments in Education, Professional Teacher Attitude and Grade Point Average as the predictor variables:

E:2 Linear Correlations in the B.Ed.Samples:

The Five educational variables were taken for the purpose of studying the inter-correlations among them using the Product Moment method of establishing coefficient of linear correlation for the entire sample of 546 B.Ed. students. The inter-correlations as worked out by the computer were presented in the form of a 5 x 5 matrix in Table 4:99:

Table:4.99: Matrix of Inter-correlations in the B.Ed Sample

Educational Variables		
	X_1	Professional Teacher Attitude
	X_2	Awareness of Recent Developments in Education
	X_3	Knowledge of Recent Developments in Education
	X_4	Utilisation of Sources of Information on Recent Developments
	X_5	Grade Point Average.

VARIABLES	Attitude X_1	Awareness X_2	Know-ledge X_3	Utili-sation X_4	GPA X_5
Attitude X_1	1.00				
Awareness X_2	0.27**	1.00			
Knowledge X_3	0.10*	-0.0011	1.00		
Utilisation X_4	0.23**	0.28**	0.19*	1.00	
GPA X_5	0.11*	0.02	0.20**	0.05	1.00

df 374 * $P < .05$; ** $P < 01$

0.05 level t = 0.086; 0.01 level t = 0.112

(1) Correlates of the Awareness of Recent Developments of B.Ed. Students:

Awareness of Recent Developments correlated positively and significantly at 0.01 level with their Utilisation of Sources of Information on Recent Developments (r_{24} = 0.28) and their Professional Teacher Attitude (r_{21} = 0.27). Awareness showed positive and negligibly low inter-correlation with Grade Point Average (r_{25} = 0.02). Awareness had negligibly low and negative inter-correlation with Knowledge of Recent Developments in Education and the coefficient of correlation was -0.0011.

(2) Correlates of Knowledge of Recent Developments of B.Ed. Students:

Knowledge of Recent Developments in Education of B.Ed. students correlated positively and significantly with all the other variables under study except its negligibly low negative Inter-correlation of -0.0011 with Awareness of Recent Developments. Knowledge of Recent Developments of the students correlated positively and significantly at 0.01 level with their Grade Point

Average in the University Semester Examinations (r_{35} = 0.20). It correlated positively and significantly at 0.05 level with their Professional Teacher Attitude (r_{31}= 0.10) as well as their Utilisation of Sources of Information on Recent Developments (r_{34}=0.10

(3) Correlates of Utilisation of Sources of Information of B.Ed. Students:

Students' Utilisation of Sources of Information on Recent Developments had positive and significant inter-correlation with their Awareness of Recent Developments (r_{42} = 0.28; P<.01). Their Utilisation of Sources of Information had significant corelation with their Professional Teacher Attitude and (r_{41} = 0.23 P<.01). Utilisation of Sources of Information correlated positively at 0.05 level of significance with their Knowledge of Recent Developments (r_{43} = 0.10). It had negligibly low inter-correlation with their GPA (4_{45} = 0.05).

(4) Correlates of Professional Teacher Attitude of B.Ed. Students:

Professional Teacher Attitude of students Correlated positively and significantly at 0.01 level with their Awareness of Recent Developments in Education (r_{12} = 0.27) and the Utilisation of Sources of Information on Recent Developments (r_{14} = 0.23). Their attitude to the profession correlated positively and significantly at 0.05 level with their Knowledge of Recent Developments in Education (r_{23} = 0.10) and their GPA in the University Semester Examinations (r_{15} = 0.11).

(5) Correlates of GPA of B.Ed. Students:

Eventhough GPA of B.Ed. students correlated with all the other four variables positively, the correlation Co-efficients were significant in the case of Knowledge of Recent Developments in Education at 0.01 level of significance(r_{53} = 0.20) and Profe-

ssional Teacher Attitude at 0.05 level of significance ($r_{51} = 0.11$)

(6) Discussion :

This study of linear Correlations would be useful to the teacher-educators and researchers as discussed below. The correlational study had revealed that B.Ed. students' Awareness of Recent Developments in Education was not correlating significantly with any other variable except Utilisation of Sources of Information on Recent Developments. Hence if teacher-educators wished to develop Awareness of Recent Developments in Education on the part of B.Ed.students, they should encourage them towards better Utilisation of Sources of Information on Recent Developments. The GPA did not serve as an index of their Awareness of Recent Developments in Education and hence it could not be used by the teacher-educators to estimate their students' Awareness of Recent Developments in Education.

The Knowledge of Recent Developments in Education of the B.Ed. students correlated significantly with other educational variables except Awareness of Recent Developments in Education. Teacher-educators could easily assume or estimate knowledge of Recent Developments on the part of the B.Ed.students in whom they find proper Professional Teacher Attitude or adequate Utilisation of Source of high GPA. Awareness and and Knowledge of Recent Developments appeared to be two separate constructs and the Knowledge of one of them was not helping one to know something of the other. Hence teacher-educators should study them separately.

The B.Ed. students' Utilisation of the Sources of Information correlated positively with the other educational variables in this study with the exception of GPA. Due to this correlation, it was justifiable on the part of the teacher-educators to expect that B.Ed. students making better use of Sources of Information were likely to develop better Awareness and Knowledge of Recent Developments in Education and Professional Teacher Attitude.

Professional Teacher Attitude of the B.Ed. students correlated significantly with the other four educational variables in the study. Teacher-educators could well assume that when B.Ed.students show Professional Teacher Attitude, that would have also developed their Knowledge of Recent Developments in Education, Utilisation of Sources of Information on Recent Developments and GPA.

GPA correlated with Professional Teacher Attitude and Knowledge of Recent Developments in Education and not with the other two educational variables.

E:3 Linear Correlations in the M.Ed. Sample:

The five educational variables associated with the sample of 78 M.Ed. students were cast into this Correlational study and the product moment correlation coefficients obtained through computer processing were placed in Table:4.100 in the form of 5 x 5 matric.

Table: 4.100 : Matrix of Inter-correlations with M.Ed.sample:

Variables		Attitude X_1	Awareness X_2	Knowledge X_3	Utilisation X_4	GPA X_5
Attitude	X_1	1.00				
Awareness	X_2	-0.01	1.00			
Knowledge	X_3	0.25*	0.09	1.00		
Utilisation	X_4	-0.13	0.39**	0.30**	1.00	
GPA	X_5	0.12	-0.13	0.21	0.006	1.00

df = 76; * P $<$.05; ** P $<$.01

0.05 level t = 0.226; 0.01 level t = 0.294.

(1) Correlates of Awareness of Recent Developments of M.Ed.Students:

Awareness of Recent Developments in Education of the M.Ed. Students Correlated positively and significantly at 0.01 level with their Utilisation of Sources of Information on Recent Developments (r_{24} = 0.39). Awareness showed positive but insignificant inter-correlation with Knowledge of Recent Developments in Education r_{23} = 0.09). Awareness of Recent Developments had negative inter-correlation with GPA (r_{25} = -0.13) and the Co-efficient was not significant.

(2) Correlates of Knowledge of Recent Developments of M.Ed. Students

Knowledge of Recent Developments in Education had positive and significant Correlations with Utilisation of Sources of Information on Recent Developments (r_{34} = 0.30; P$<$.01) and with Professional Teacher Attitude (r_{31} = 0.25; P$<$.05). The inter-correlation between Knowledge of Recent Developments and GPA was positive (r_{35} = 0.21) and not significant.

(3) Correlates of Utilisation of Sources of Information of M.Ed. Students:

The inter-Correlations of Utilisation of Sources of Information on Recent Developments with Awareness of Recent Developments and Knowledge of Recent Developments in Education were r_{42} = 0.39; P$<$.01 and r_{43} = 0.30; P$<$.01 respectively. Utilisation of the Sources of Information on Recent Developments had negligibly low negative correlation with GPA, the co-efficient of Correlation being -0.006 was not significant.

(4) Correlates of Professional Teacher Attitude of M.Ed. Students:

Professional teacher Attitude of M.Ed students correlated positively and significantly with their Knowledge of Recent Developments in Education and r_{13}=0.25(P .05). There was a very low positive correlation between Professional Teacher Attitude & GPA and r_{15}=0.12. The inter-correlations between Professional Teacher Attitude of M.Ed students and their Awareness of Recent Developments in Education and Utilisation of the Scores of Information on Recent Developments were low and negative and r_{12}= -0.01 and r_{14}=-0.13 respectively and were not significant.

(5) Correlates of GPA of M.Ed. students:

GPA did not correlate significantly either positively or negatively with any other variable in the study. The inter-correlations between GPA and Professional Teacher Attitude and Knowledge of Recent Developments in Education were positive and low and the concerned Co-efficients were respectively r_{51}=0.12, and r_{53}=0.21. The inter-correlations between GPA and Awareness and Utilisation of Sources of Information on Recent Developments were negative and the Co-efficients were respectively r_{52}=-0.23, and r_{54}=0.06 and both of them were not significant.

(6) Discussion:

One of the Objectives of this research was to establish the relationship among the educational variables. The correlational study had contributed towards this. In the M.Ed. sample there were fewer inter-relationships among these variables. There was positive intercorrelation between Professional Teacher Attitude and Knowledge of Recent Developments in Education. Utilisation of Sources of Information has significant positive inter-correlation with Awareness & Knowledge of Recent Developments. This

Correlational study had shown to the teacher-educators, that GPA stood isolated at this post-graduate level of teacher-education and had no inter-correlation with any other educational variable. This pointed out GPA need not be taken seriously and other educational variables needed to be taken earnestly in the M.Ed. course.

SECTION : 5

(F) THE RELATIONSHIP AMONG THE FIVE EDUCATIONAL VARIABLES, and PARTIAL CORRELATIONS :

F:1 Introduction:

The performance of student-teachers on certain given educational variables might not simply depend on any single variable. The field of professional educational achievement, being very complex, certain performance might depend on multiple variables. One interested in studying precisely the relationship between one independent variable and the criterion variable should control the influence of other variables on the criterion variable. Often in the world of education, such control of variables could not be effected easily.Hence by applying the technique of partial correlation, such variable/s would be kept constant and the relationship between the criterion variable and another variable could be studied . In partial Correlation of the first, second and third order, one, two, or three variables could be partialed out respectively and the relationship between two variables could be determined.

In the earlier section on correlational study, the inter-relationship between two variables was studied at one time. It was quite possible that there was a correlation between the two, not because they had something common, but because both of them had something common with a third variable. If the precise relationship between any two variables had to be determined, then, they should be studied together while nullifying the effect of other one or two or three colsely related variables. It is against this relationable, as part of

the multivariate analysis the use of partial correlations was undertaken in this study towards the objective of studying the relationships among the five criterion educational variables, which have been designated as given below:

Professional Teacher Attitude	X_1
Awareness of Recent Developments in Education	X_2
Knowledge of Recent Developments in Education	X_3
Utilisation of the Sources of Information on Recent Developments	X_4
Grade Point Average	X_5

In this section, the bivariate correlations among these variables under the product moment method as well as partial correlations of the first, second and third order were examined. The minimum level of Significane accepted with reference to partial r was 0.05. The particulars relating to the significance of Partial r's with values from the sample of B.Ed. studentswere placed in Appendix XX IV.A and similar particulars relating to the M.Ed. sample were located in Appendix XX IV B.

F:2 THE STUDY OF RELATIONSHIPS AMONG THE FIVE EDUCATIONAL VARIABLES WITH REFERENCE TO B.Ed. SAMPLE AND PARTIAL CORRELATIONS :

F:2:1 The relationship between Awareness and Knowledge of Recent Developments of the B.Ed. Sample:

The relationship between the B.Ed. students' Awareness and Knowledge of Recent Developments in Education was examined using the product moment method of bivariate correlation, as well as partial Correlations of the first order (in which one

other education variable was statistically controlled), the second order (in which two other educational variables were partialed out from influencing Awareness and Knowledge of Recent Developments and the third order (in which condition, the influence of the other three variables, Viz.Utilisation of the Sources of Information, Professional Teacher Attitude and Grade Point Average had been eliminated with reference to the relationship between Awareness and Knowledge of Recent Developments in Education). The particulars relating to the relationship between Awareness and Knowledge of Recent Developments in Education of the B.Ed. students were placed below in Table:4:101.

Table:4.101: The Correlation between Awareness of Recent Developments of the B.Ed. students and their Knowledge of Recent Developments in Education and the Partial Correlations of the first, Second and third order:

Bivariate Correlation Pearsons r° (1)	First order Partial r (2)	Second Order Partial r (3)	Third Order Partial r
$r_{23}= -0.0011$	$r_{23.1}= 0.0299$ $r_{23.4}=-0.0321$ $r_{23.5}=-0.0050$	$r_{23.14}=-0.0510$ $r_{23.45}=-0.0337$ $r_{23.51}= 0.0303$	$r_{23.451}= -0.1688^{**}$

NOTE: ** Significant at 0.01 level; other not significant.

The Coefficient of bivariate Correlation between Awareness of Recent Developments in Education and Knowledge of Recent Developments in Education was negligible low, negative and not significant. As seen in Table:4.101, in partial correlation's of the first and second order, the partial r's remained not significant. However, in the third order partial correlation, when the influence of variables X_4, X_5& $X_1$was kept constant, the partial r was negative & became significant

at 0.01 level.

F:2:2 : The Relationship between Awareness of Recent Developments and Utilisation of Sources of Information on Recent Developments of the B.Ed. Sample:

The relationship between Awareness of Recent Developments and Utilisation of Sources of Information on Recent Developments was examined applying the product moment correlation and multivariate analysis involving partial correlations of the first [illegible] first, second and third order and the particulars connected therewith could be referred to the Table 4.102.

Table:4:102: The Correlation between of Recent Developments of the B.Ed. Students and their Utilisation of Sources and the Partial Correlations of the first, second and third order:

Bivariate Correlation Pearsons's r (1)	First order Partial (2)	Second order Partial (3)	Third Order Partial (4)
r_{24} = 0.2822	$r_{24.1}$= 0.2339	$r_{24.13}$=0.2373	$r_{24.513}$= 0.2376
	$r_{24.3}$= 0.2839	$r_{24.35}$=0.2836	
	$r_{24.5}$ =0.2817	$r_{24.51}$=0.2344	

Note : All the Co-efficients were significant at 0.01 level.

The Coefficient of bivariate Correlation between Awareness of Recent Developments of the B.Ed. students and their Utilisation of Sources of Information was 0.2822 and was significant at 0.01 level As seen in Table:4.102, in the partial correlation, the influence of professional Teacher Attitude, Knowledge of Recent Developments and GPA was eliminated one by one and in allthe three cases the partial correlations remained significant. Similarly in the Second

order partial correlation the effect of (i) X_1 and X_3 (ii) X_3 and X_5 and (iii) X_5 and X_1 was nullified and in all the three instances, the partical r's were significant at 0.01 level. In the third order partial correlation, when the effect of the three variables X_5, X_1 and X_3 were partialed out, the relationship between Awareness of Recent Developments and Utilisation of Sources of Information remained significant at 0.01 level.

F:2.3: The relationship between Awareness of Recent Developments and Grade Point Average of the B.Ed. Sample:

The relationship between Awareness of Recent Developments and GPA of the B.Ed. students was analysed using the bivarieate product moment correlation and the partial correlations of the first, Second and third order and these particulars could be referred below in Table: 4.103:

Table:4.103: The Correlation between Awareness of Recent Developments of the B.Ed. students and their GPA and the Partial Correlations of the first, second and third order:

Bivariate Correlation Pearson's (1)	First order Parliar r (2)	Second order Partial r (3)	Third order Partial r (4)
$r_{25} = 0.0196$	$r_{25.1} = -0.0100$ $r_{25.3} = 0.0202$ $r_{25.4} = 0.0054$	$r_{25.13} = -0.0448$ $r_{25.34} = 0.0118$ $r_{25.41} = -0.0168$	$r_{25.134} = -0.0489$

(Note : None of the Co-efficients was significant)

There was no significant relationship between B.Ed.Students' Awareness of Recent Developments in Education and their GPA because the bivariate Correlation by product moment method and all the three

partial r's of the first order, all the three partial r's of the Second order and the third order partial correlation were all not at all significant.

F:2.4: The relationship between Knowledge of Recent Developments and the utilisation of Sources of Information on Recent Developments of the B.Ed. Sample.

The relationship between knowledge of Recent Developments and Utilisation of Sources of Information of the B.Ed. students analysed in bivariate correlation and partial correlations of the first, second and third order and the details were place below in Table: 4.104:

Table:4.104: The correlation between Knowledge of Recent Developments of the B.Ed. students and their utilisation of the Sources of Information and the Partial Correlations of the first, second and third order:

Bivariate correlation Pearson's (1)	First order Partial r (2)	Second order Partial r (3)	Third Order Partial r (4)
r_{34}=0.1046*	$r_{34.5}$ = 0.0953*	$r_{34.51}$= 0.0793	$r_{34.512}$= 0.0889*
	$r_{34.1}$ = 0.0839*	$r_{34.12}$= 0.0935*	
	$r_{34.2}$ = 0.1093**	$r_{34.25}$= 0.1021*	
6			

The coefficient of product moment correlation between Knowledge of Recent Developments and Utilisation of Sources of Information of B.Ed. students was 0.1046 and was significant at 0.05 level. Table :4.104 had shown, all the first order partial correlations were significant. In the second order partial correlation, when X_5 and X_1 were partialed out the correlation between Knowledge of Recent Developments and Utilisation of Sources of Information was not significant. When the variables X_1 and X_2, and X_2 and X_5

were partialed out, the Correlation between Knowledge and Utilisation of Sources of Information was significant at 0.05 level. In the third order partial Correlation, $r_{34.512}$ was significant at 0.05 level. i.e., when the influence of the other three variables was eliminated, the relationship between Knowledge of Recent Developments and Utilisation of Sources of Information persisted with reference to the B.Ed. sample.

F:2.5: The Relationship between Knowledge of Recent Developments and GPA of the B.Ed. sample:

The relationship between the Knowledge of Recent Developments and GPA of the B.Ed. students was examined using bivariate correlation by the product moment method as well as the partial correlations of the first, Second and third order and the particulars pertaining to this could be referred in Table:4.105.

Table:4.105: The Correlation between Knowledge of Recent Developments of B.Ed students and their GPA and the partial correlations of the first, second and third order:

Bivariate Correlation Pearson's 'r' (1)	First order Partial 'r' (2)	Second order Partial r (3)	Third order Partial r (4)
r_{35} =0.1953	$r_{35.1}$=0.1865 $r_{35.2}$=0.1953 $r_{35.4}$=0.1913	$r_{35.12}$=0.1863 $r_{35.24}$=0.1915 $r_{35.41}$=0.1890	$r_{35.124}$=0.1844

(Note: All the coefficients were significant at 1 percent level)
As seen in Table 4.105 the Coefficient of Product Moment correlation between Knowledge of Recent Developments and GPA of B.Ed students was 0.1953 and significant at 1 percent level. In the first order partial correlation analysis, the variables Teacher attitudes,

Awareness of Recent developments and utilisation of Information-sources were partialed out one by one and $r_{35.1}$, $r_{35.2}$ and $r_{35.4}$ were positive and significant at 0.01 level. Similarly in the second order, partial correlation, the influence of X_1 and X_2, X_2 and X_4, and X_4 and X_1 was eliminated and the correlation between Knowledge of Recent Developments and GPA remained positive and significant. Finally in the third order partial correlation, the influence of X_1, X_2 and X_4 was removed and the correlation between knowledge and GPA persistedto be positively significant at 0.01 level.

F.2.6: The Relationship between Utilisation of the Sources of Information of B.Ed students and their GPA.

The relationship between utilisation of the sources of Information and the GPA of the B.Ed sample was studied using bewariate product moment correlation and the partial correlations of the first, second and third order and these could be referred to in Table 4.106.

Table 4.106: The Correlation between Utilisation of Information-Sources of B.Ed Students and their GPA and the partial correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order Partial r (3)	Third order Partial r (4)
r_{45} =0.0510	$r_{45.1}$=0.0270 $r_{45.2}$= 0.0474 $r_{45.3}$=0.0314	$r_{45.12}$=0.0301 $r_{45.23}$ =0.0267 $r_{45.13}$ =0.0115	$r_{45.123}$=0.0130

(Note: All the coefficients were not significant)

The bivariate correlation between Utilisation of Sources of Information and GPA of B.Ed students and partial correlations of the first, second and third order were all positive, low and significant as seen in Table.106

F.2.7: The Relationship between Profesional Teacher Attitude and Awareness of Recent Developments in Education of the B.Ed Sample.

The relationship between Professional Teacher Attitude and Awareness of Recent Developments in Education of the B.Ed sample was examined using product moment correlation and partial correlations as shown in Table of 107.

Table 4.107: The Correlation between the Teacher Attitude of B.Ed Students and their Awareness of Recent Developments and the Partial Correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First order Partial 'r' (2)	Second order Partial 'r' (3)	Third order Partial 'r((4)
r_{12}= 0.2722**	$r_{12.3}$=0.2737**	$r_{12.34}$ =0.2249**	$r_{12.345}$ =0.2247**
	$r_{12.4}$=0.2214**	$r_{12.45}$ =0.2220**	
	$r_{12.5}$=0.2727**	$r_{12.53}$ =0.2731**	

Note: ** Significant at 0.01 level

In Table 4.107 the bivariate correlation between Teacher Attitude and Awareness of Recent Developments was significant ($P<0.01$). In the first order partial correlation, when the effect of Knowledge of Recent Developments, Utilisation of Sources of Information, and GPA were eliminated, in each case it was found the partial r was significant at 0.01 level. Vide Appendix XXXIV. A for the study of Significance of Partial r's with values from the sample of B.Ed students. Similarly in second and third order partial correlations, when the effect two variables and three variables were respectively held constant, the correlation between the Teacher Attitude and Awareness of Recent Developments remained significant at the same level. Hence it was established that Professional Teacher Attitude of B.Ed students correlated significantly with their Awareness of Recent Developments even when the other variables in the study were held constant statistically.

F.2.8: The Relationship between Professional Teacher Attitude and Knowledge of Recent Developments in Education of the B.Ed.Sample.

The relationship between Professional Teacher Attitude and Knowledge of Recents Developments of the B.Ed.students was studied using product moment (bivariate) correlation and the partial correlations as shown in Table 4.108.

Table 4.108: The Correlation between Teacher Attitude of B.Ed. students and their Knowledge of Recent Developments and the Partial correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order Partial r (3)	Third order Partial r (4)
r_{13}= 0.1009 *	$r_{13.2}$ =0.1052*	$r_{13.24}$ =0.0884*	$r_{13.452}$ =0.0710
	$r_{13.4}$ =0.0791	$r_{13.45}$ =0.0617	
	$r_{13.5}$ =0.0820	$r_{13.52}$ =0.0866*	

The bivariate correlation between Teacher attitude of B.Ed students and their Knowledge of Recent Developments was significant at 0.05 level. In Table 4.108 in the first order partial correlation, when variable Awareness of Recent Developments was held constant, the partial r was significant at 0.05 level. When the Utilisation of Sources of Information and GPA were ruled out, in each case the partial r became not significant. In the second order partial correlation, $r_{13.24}$ and $r_{13.52}$ were found to be significant at 0.05 level. Only $r_{13.45}$ turned out to be not significant. In the third order partial correlation, when X_4, X_5 and X_2 were partialed out, the correlation between Professional Teacher Attitude and Knowledge became not significant.

F.2.9: The Relationship between Professional Teacher Attitude and Utilisation of the Sources of Information of the B.Ed.Sample.

The relationship between B.Ed students' Professional Teacher Attitude and Utilisation of the Information Sources was studied using bevariate product moment correlation and the partial correlations as placed in Table 4.109.

Table 4.109: The Correlation between Teacher Attitude of B.Ed. students and Utilisation of Sources and Partial correlations of first, second and third order:

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order Partial r (3)	Third order Partial r (4)
r_{14} =0.2325**	$r_{14.2}$=0.1687** $r_{14.3}$=0.2243** $r_{14.5}$=0.2286**	$r_{14.23}$=0.1529** $r_{14.35}$=0.2226** $r_{14.52}$=0.1647**	$r_{14.523}$ =0.1573**

Note:** Significant at 0.01 level.

The bivariate correlation between Teacher attitude of B.Ed students and Utilisation of Sources was significant at 0.01 level. All the partial coefficients of correlation; first, second and third order were e found to be significant at 0.01 level as seen in Table 4.109. Hence it was established, even when the the other variables were controlled, be it one at a time, or two at a time or three at the same time, there was a significant relationship between Professional Teacher Attitude and Utilisation of Sources by the B.Ed students.

F.2.10: The Relationship between Professional Teacher Attitude and GPA of the B.Ed sample:

The relationship between Professional Teacher Attitude of the B.Ed students and their GPA was examined using product moment correlation and partial correlations, as shown below in Table 4.110.

Table 4.110: The Correlation between Teacher Attitude of B.Ed. Students and their GPA and Partial correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order Partial r (3)	Third order Partial r (4)
r_{15} =0.1072*	$r_{15.2}$ =0.1059*	$r_{15.23}$ =0.0875*	$r_{15.234}$ =0.0844*
	$r_{15.3}$ =0.0897*	$r_{15.34}$ =0.0849*	
	$r_{15.4}$ =0.0981*	$r_{15.42}$ =0.0999*	

The coefficient of bivariate correlation between Teacher Attitude of B.Ed students and their GPA was 0.1072 ~~bet~~ and it was significant as 0.05 level. As presented in Table 4.110 in the first order partial correlation, when the effect of 'Awareness of Recent developments' 'Knowledge of Recent Developments' and 'Utilisation of Sources' was nullified one after the other, the correlation between professional Teacher Attitude and GPA stayed significant at 0.05 level. Similarly in the second order partial correlation, when the influence of (i) X_2 and X_3 (ii) X_3 and X_4 and (iii) X_4 and X_2 was nullified the correlation between Teacher Attitude and GPA remained significant at 0.05 level. Finally when the effect of X_2, X_3 and X_4 was neutralised in the third order partial correlation, the relationship between Teacher Attitude and GPA continued to be significant at 0.05 level. In all circumstances of the above analysis, there was a significant relationship between Professional Teacher Attitude and GPA of the B.Ed students.

F.2.11: Conclusion.

The third order partial correlations brought out the following results with reference to the objective of studying the relationship amoung the five educational variables:

Evenafter partialing out the effect of three others variables, there was significant positive relationship between thefollowing pairs of variables with reference to the B.Ed sample:

(i) Professional Teacher Attitude and Awareness of Recent Developments in Education.

(ii) Professional Teacher Attitude and Utilisation of the sources of Information.

(iii) Professional Teacher Attitude and GPA.

(iv) Awareness of Recent Developments and Utilisation of the sources of Information.

(v) Knowledge of Recent Developments and Utilisation of the Sources of Information.

(vi) Knowledge of Recent Developments and GPA.

The positive and significant relationship between Professional Teacher Attitude and Knowledge of Recent Developments under product moment totally lost its significance, when three other variables were partialled out. Originally there was no significant relationship between Awareness of Recent Developments and knowledge of Recent Developments under product moment correlation. In partial Correlation, when the influence of three other variable was eliminated, the relationship between the two variables became negative and significant. There were some significant disclosu-

res

with reference to the research objective of studying the relation ship among the five educational variables.

F.3: The study of Relationship among the Five educational variables with reference to the M.Ed sample and the partial r's

F.3.1:The Relationship between Awareness and knowledge of Recent Developments of the M.Ed sample.

The Relationship between M.Ed students' Awareness of Recent Developments and knowledge of Recent Developments in Educatation was examined both by the product moment method of bivariate correlation and multivariate analysis involving the application of partial correlations, as shown below in Table 4.111.

Table 4.111: The Correlation between the Awareness of Recent Developments of M.Ed students and their Knowledge of Recent Developments and the Partial correlations of the first, second and third order.

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order Partial r (3)	Third order Partial r (4)
r_{23} =0.0855	$r_{23.1}$ =0.0930 $r_{23.4}$ =-0.0365 $r_{23.5}$ =0.0608	$r_{23.14}$ =-0.0408 $r_{23.45}$ =-0.0613 $r_{23.51}$ =0.0705	$r_{23.451}$ =-0.0181

(Note: None of the coefficients was significant)

The relationship between M.Ed students' Awareness of Recent Developments and Knowledge of Recent Developments(As seen from the Pearson's r=0.0855) was positive, negligibly low and not

significant. As seen from Table 4.111 all the partial r's were also not significant. It could be observed that the relationship between Awareness of Recent Developments and Knowledge of Recent Developments was rather weak and tended to be unstable in the direction of the relationship under partial correlations and in all cases lacked statistical significance.

F.3.2: The Relationship between Awareness of Recent Developments of the M.Ed students and their Utilisation of Sources of Recent Developments:

The relationship between M.Ed students' Awareness of Recent Developments in Education and Utilisation of Sources of Informations were analysed using bivariate product moment correlation and partial correlations and the details could be referred to in Table 4.112

Table 4.112: The correlation between Awareness of Recent Developments of M.Ed students and their Utilisation of Sources of Information on Recent Developments and Partial correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First order partial r (2)	Second order Partial r (3)	Third order Partial R (4)
r_{24}= 0.3916**	$r_{24.1}$=0.3931** $r_{24.3}$= 0.3857** $r_{24.5}$=0.3885**	$r_{24.13}$=0.3864** $r_{24.35}$=0.3886** $r_{24.51}$=0.3962**	$r_{24.513}$ =0.3969**

The Awareness of Recent Developments in Education of M.Ed students had a strongly positive relationship with their Utilisation of

Sources of Information and the Product moment r_{24} was 0.3916 ($P<0.01$). In Table 4.112, under first order partial correlation, when one by one (i) Teacher Attitude, (ii) Knowledge of Recent Development in Education and (iii) GPA were controlled the partial correlations remained positive and significant at 0.01 level because $r_{24.1}$ =0.3931, $r_{24.3}$=0.3857 and $r_{24.5}$=0.3885. When second order partial correlations were worked out by holding pairs of variables (i) X_1 and X_3 (ii) X_3 and X_5 and (iii) X_5 and X_1 controlled, the relationship between Awareness of Recent Developments in Education and Utilisation of S1 on Recent Development in Education remained positive and significant at 0.01 level because $r_{24.13}$ =0.3864, $r_{24.35}$ =0.3886, and $r_{24.51}$ =0.3962. Finally when GPA, Teacher Attitude and Knowledge of Recent Development in Education were partialed out, the relationship between Awareness of Recent Development in Education and Utilisation of Sources of Information retained the significance at 0.01 level. It could be observed that Awareness of Recent Developments in Education and Utilisation of Sources of Information on Recent Development in Education were closely and positively related at 0.01 level of significance under all conditions i.e. under bivariate correlation as well as partial correlation of the first, second and third order. The effect of other variables on them either siggly or jointly was negligible.

F.3.3: The Relationship between M.Ed students' Awareness of Recent Developments in Education and GPA:

The relationship between Awareness of Recent Developments in Education and the GPA of the M.Ed students was vieved by applying

bivariate product moment correlation and the partial correlations and these particulars were placed in Table # 4:113 below.

Table 4.113: The Correlation between the Awareness of Recent Developments in Education of M.Ed students and their GPA and the Partial Correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First otder Partial r (2)	Second order Partial r (3)	Third order Partial r (4)
r_{25} = 0.1272	$r_{25.1}$ =0.1298 $r_{25.3}$ =0.1118 $r_{25.4}$ =0.1143	$r_{25.13}$=0.1149 $r_{25.34}$=0.1238 $r_{25.41}$=0.1107	$r_{25.134}$=0.1214 #

(Note : None of the Coefficient was significant)

The Awareness of Recent Developments in Education of M.Ed students had a positive and low association with their GPA because the product moment r_{25} = 0.1272. The relationship was not significant.

It could be observed in Table 4.113, that Awareness of Recent Developments in Education and GPA had a steady positive and low relationship under product moment correlation and partial correlation of the first, second and third order and under all these circumstance the relationship did not reach any level of significance. The influence of the other three vafiables either taken singly or in any combination when nullified did not affect the relationship between Awareness of Recent Developments in Education and GPA.

F:3.4: The Relationship between Knowledge of Recent Developments in Education of M.Ed students and their Utilisation of Sources of Information:

The relationship between the two variables was studied by applying both bivariate product moment correlation and the partial correlations of the third order and all relevant details could be seen in Table below:

Table:4.114 : The Correlation between Knowledge of Recent Developments in Education of M.Ed. students and their Utilisation of Sources of Information on Recent Developments and the Partial correlations of the first, Second and third order:

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order Partial r (3)	Third order Partial r (4)
r_{34}= 0.3017**	$r_{34.5}$=0.2968** $r_{34.1}$=0.3479** $r_{34.2}$=0.2923**	$r_{34.51}$=3413** $r_{34.12}$=3400** $r_{34.25}$=2965**	$r_{34.512}$=0.3421**

Note: All the coefficients were significant.

There was a significant and positive relationship between the Knowledge of Recent Developments in Education of M.Ed students and their Utilisation of Sources of Information on Recent Developments in Education because the Product Moment r_{34}=0.3017 ($P<0.01$). As shown in Table:F.114,under first order partial correlation when one by one (i) GPA,(ii)Teacher Attitude and (iii) Awareness of Recent Developments in Education was

partialed out, the relationship between knowledge of Recent Developments in Education and Utilisation of SI remained significant at 0.01 level. Under second order partial correlation, when (i) X_5 and X_1, (ii) X_1 and X_2, and (iii) $X_2$and X_5 were partialed out the relationship between knowledge of Recent Developments in Education and Utilisation of SI remained significant at 0.01 level and was positive. Finally when GPA, Teacher Attitude and Awareness of Recent Developments in Education were held constant under third order partial correlation, the correlation between Knowledge of Recent Developments in Education and Utilisation of SI remained positive and significant at 0.01 level and $r_{34.512}=0.3421$.

It could be observed that basically there was a stable and positive relationship between the M.Ed. students' Knowledge of Recent Developments in Education and their Utilisation of Sources of Information on Recent Developments in Education and this relationship was significant ($P<0.01$) under all circumstances-under Product moment correlation and partial correlations of the first, second and third order. When the impact of the other variables (X_5,X_1,X_2) were nullified either singly or in combinations of two or three variables, they could not alter the stable, positive, and significant relationship between Knowledge of Recent Developments in Education and Utilisation of Sources of Information on Recent Developments in Education.

F:3:5 Relationship between M.Ed. Students' Knowledge of Recent Developments in Education and their GPA:

The relationship between the two variables was examined applying product moment correlation under bivariate analysis and the partial correlations as shown below in Table:4:115.

Table:4.115: The Correlation between Knowledge of Recent Developments of M.Ed. students and their Grade Point Average and the Partial Correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First order partial r (2)	Second order partial r (3)	Third order Partial r (4)
$r_{35}=0.2095$	$r_{35.1}=0.1871$ $r_{35.2}=0.2002$ $r_{35.4}=0.2017$	$r_{35.12}=0.1807$ $r_{35.24}=0.2066$ $r_{35.41}=0.1733$	$r_{35.124} = 0.1839$

(Note: None of the Coefficient was significant)

The relationship between the Knowledge of Recent Developments in Education of M.Ed. students and their university Examination GPA was positive, low and lacked significance because $r_{35}=0.2095$ As seen in Table:4.115 under first order partial correlation, (i) Teacher Attitude, (ii) Awareness of Recent Developments in Education and (iii) Utilisation of Sources of Information were partialed out one after another and the relationship between Knowledge of Recent Developments in Education and GPA remained positive, low and lacked significance.

Under second and third order partial correlation the association between Knowledge of Recent Developments in Education and GPA remained stably positive, low and without significance.

It was noted that the relationship between Knowledge of Recent Developments in Education of M.Ed. students and their GPA was low, stably positive and did not reach any level of significance. When the influence of one, two or three variables were nullified, the

relationship between Knowledge of Recent Developments in Education and GPA basically remained unaltered.

F:3:6 The Relationship between M.Ed. Students' Utilisation of Sources of Information and GPA:

The actual relationship between the above mentioned two variables was investigated using bivariate correlation (Pearson's r) and the partial Correlations as could be referred in Table:4.116.

Table:4.116: The Correlation between Utilisation of Sources of Information on Recent Developments in Education of M.Ed.students and their GPA and the Partial correlations of the First, Second and third order:

Bivariate Correlation Pearson's r (1)	First order partial r (2)	Second order Partial r (3)	Third order Partial r (4)
$r_{45} = 0.0573$	$r_{45.1} = 0.0720$ $r_{45.2} = 0.0088$ $r_{45.3} = -0.0064$	$r_{45.12} = 0.0230$ $r_{45.23} = -0.0530$ $r_{45.13} = 0.0075$	$r_{45.123} = -0.0415$

(Note: None of the Coefficient was significant)

The association between the Utilisation of Sources of Information of M.Ed. students and their GPA was low, positive and lacked significance because the Product Moment $r_{45} = 0.0573$. All the partial correlations, as seen in Table:4.116 were negligibly low and had absolutely no statistical significance. It could be observed that there was a very low and marginal relationship between Utilisation of Sources of Information and GPA and this had absolutely no claim for statistical significance.

F:3:7 The Relationship between M.Ed. Students' Professional Teacher Attitude and Awareness of Recent Developments IN EDUCATION:

The relationship between the above mentioned two variables was analysed by applying product moment correlation and partial correlations of the third order, as shown below with full particulars in Table:4.117.

Table:4.117: The correlation between the Teacher Attitude of M.Ed. Students and Awareness of Recent Developments and the Partial correlations of the first, second and thirde order:

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order Partial r (3)	Third Order Partial r (4)
$r_{12} = -0.0148$	$r_{12.3} = -0.0384$ $r_{12.4} = 0.0296$ $r_{12.5} = 0.0304$	$r_{12.34} = -0.1359$ $r_{12.45} = 0.0157$ $r_{12.53} = -0.0461$	$r_{12.345} = -0.157$

(Note : None of the coefficient was significant.

The Teacher Attitude of M.Ed. students had a low and negative relationship with their Awareness of Recent Developments in Education in a Product moment correlation and it lacked significance. When the first order partial correlations were computed by partialing out Knowledge of Recent Developments in Education, Utilisation of Sources of Information on Recent Developments and Grade Point Average, the partial r values(-0.0384, 0.0296) 0.0304) were low and did not reach statistical significance. Vide Appendix XXIV. B for the study of Significance of Partial r's with values from the sample of M.Ed. students. When the second order partial correlations were computed, the partial

r values remained low and lacked significance. Nevertheless as seen in Table:4.117, the inverse relationship between Teacher Attitude and Awareness of Recent Developments in Education strengthened when Knowledge of Recent Developments in Education and utilisation of Sources of Information were statistically held constant. Finally in the third order partial correlation, when knowledge of Recent Developments in Education, Utilisation of Sources of Information and GPA were controlled, the inverse relationship between the M.Ed. students' professional Attitude and Awareness of Recent Developments in Education deepened ($r_{12.345} = -0.1573$) even though it did not become significant.

F:3:8 The Relationship between Professional Teacher Attitude of the M.Ed. Students and their Knowledge of Recent Developments in Education:

Regarding the relationship between the above mentioned two variables product moment correlation and partial correlations of the first, second and third order were applied and the relevant details were located in Table:4.118:

Table:4.118: The Correlation between Teacher Attitude of M.Ed. Students and their Knowledge of Recent Developments in Education and the Partial correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order Partial r (3)	Third order Partial r (4)
$r_{13} = 0.2521^{**}$	$r_{13.2} = 0.2538^{*}$	$r_{13.24} = 0.1324$	$r_{13.452} = 0.1107$
	$r_{13.4} = 0.1312$	$r_{13.45} = 0.1095$	
	$r_{13.5} = 0.2400^{*}$	$r_{13.52} = 0.1571$	

The Teacher Attitude of M.Ed. students had a strong relationship with their knowledge of Recent Developments in Education and the Product Moment r was 0.2521 (P<.01). As shown in Table.4.118, when the influence of either Awareness of Recent Developments in Education or GPA was partialed out in the first order partial correlations, the relationship between Teacher Attitude and Knowledge of Recent Developments in Education remained stable even though the relationship dropped to 0.05 level of significance. Only when Utilisation of Sources of Information was held constant, the correlation between Teacher Attitude and Knowledge of Recent Developments in Education weakened ($r_{13.4}$ = 0.1312) and also lost statistical significance. Under second order partial correlation, the association between Teacher Attitude and Knowledge of Recent Developments in Education further weakened and lost significance because $r_{13.24}$=0.1324, $r_{13.45}$ = 0.1095 and $r_{13.52}$ = 0.1571. Finally under the third order partial correlation, when Utilisation of Sources of Information GPA and Awareness of Recent Developments in Education were controlled, the association between Teacher Attitude and Knowledge of Recent Developments in Education still further weakened ($r_{13.452}$ = 0.1107) and continued to be not significant.

F:3:9 <u>The Relationship between M.Ed. Students' Professional Teacher Attitude and their Utilisation of the Sources of Information on Recent Developments:</u>

With respect to investigation of the relationship between the above mentioned two variables, the techniques of bivariate correlation (product moment r) and the partial correlations were applied and these have been included in Table:4.119.

Table:4.119: The Correlation between Teacher Attitude of M.Ed. students and their Utilisation of Sources of Information on Recent Developments and the Partial correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order Partial r (3)	Third order Partial r (4)
$r_{14} = -0.1252$	$r_{14.2} = -0.1293$ $r_{14.3} = 0.2178$ $r_{14.5} = -0.1329$	$r_{14.23} = 0.2523^{*}$ $r_{14.35} = 0.2202$ $r_{14.52} = 0.1571$	$r_{14.523} = 0.0940$

The relationship between Teacher Attitude and Utilisation of Sources of Information was negative, low and lacked significance as the Product moment $r_{14} = -0.1252$. As seen in Table:4.119, under first order partial correlation, the partial r's were not significant. The relationship between Teacher Attitude and Utilisation of sources of Information became improved and turned positive ($r_{14.3} = 0.2178$) when Knowledge of Recent Developments in Education was controlled. Under second order partial correlation, the association between Teacher Attitude and Utilisation of Sources of Information was positive in all the three cases:

(i) $r_{14.23} = 0.2523$, (ii) $r_{14.35} = 0.2202$ and $r_{14.52} = 0.1571$.

When Awareness and Knowledge of Recent Developments were nullified, the relationship between Teacher Attitude and Utilisation of Sources of Information got strengthened and assumed significance at 0.05 level. This was the only situation wherein a significant association between Teacher Attitudeand Utilisation of Sources of Information was noticed. Subsequently in the third order partial correlation, the relationship between Teacher Attitude and Utilisation of Sources of Information was low and positive and lacked significance.

F:3:10 The Relationship between Professional Teacher Attitude of the M.Ed. Students and their GPA:

With respect to the study of the relationship between the above mentioned two variables in the M.Ed. sample, besides product moment correlation, partial correlations were also used and all the related particulars were placed below in Table:4.120.

Table:4.120: The Correlation between Teacher Attitude of M.Ed. Students and their GPA and the Partial Correlations of the first, second and third order:

Bivariate Correlation Pearson's r (1)	First order Partial r (2)	Second order partial r (3)	Third order Partial r (4)
$r_{15} = 0.1152$	$r_{15.2} = 0.1179$ $r_{15.3} = 0.0655$ $r_{15.4} = 0.1231$	$r_{15.23} = 0.0708$ $r_{15.34} = 0.0685$ $r_{15.42} = 0.1200$	$r_{15.234} = 0.0872$

(Note : None of the Coefficients was significant).

The relationship between Teacher Attitude of M.Ed. students and their Grade Point Average as seen in Table:4.120 remained positive and low and not significant throughout. All the correlations; product moment correlation and the partial correlations of the first, second and third order were all positive, low and lacked significance and led to think that Teacher Attitude of M.Ed. students had a negligibly low positive relationship with their GPA.

F:3:11 Conclusion :

Following the multivariate analysis involving partial correlations of the third order, the following were the significant outcomes with specific reference to the objective of finding

relationships among the five educational variables with respect to M.Ed. sample.

Even after partialing out three variables, the relationship between the following two pairs of educational variables remained positive and significant.

(i) Awareness of Recent Developments and Utilisation of Sources of Information.

(ii) Knowledge of Recent Developments and Utilisation of Sources of Information.

This had brought out the importance of Utilisation of Sources of Information which would help to develop both Awareness and Knowledge of Recent Developments in Education.

The second major outcome of this multivariate analysis involving partial correlations of the third order was the positive and significant relationship between Professional Teacher Attitude and Knowledge of Recent Developments (seen in the product moment correlation) lost its significance when the influence of three other educational variables was eliminated. That implied students with Professional Teacher Attitude could not be expected necessarily to have Knowledge of Recent Developments in Education. These two should be teckled as separate objectives in teacher-education at the post-graduate stage.

F:4 CONCEPTUAL EXPLANATIONS FOR THE RELATIONSHIP AMONG THE FIVE EDUCATIONAL VARIABLES:

F:4:1 Introduction :

So far in this analysis, the inter-relationships among these educational variables had been examined using only the bivariate product moment correlation in the fourth section of this chapter, and the multivariate analysis involving partial correlations of the first, second and third order was applied besides the product moment correlation in the earlier part of this fifth section with respect to B.Ed and M.Ed. samples separately. At this stage of the analysis of the inter-relationships among the five educational variables a perspective view of the analysis had to be taken, encompassing all that had so far been covered. An approach such as this would facilitate conceptual explanations for the inter-relationships among these variables. Since there were five educational variables, the discussion would have to be on totally ten inter-relationships among them. For each one of them the relevant statistical data would be given in the form of a tabular statement, followed by conceptual interpretations of the same.

F:4:2 Awareness and Knowledge of Recent Developments in Education:

The inter-relationship between Awareness and Knowledge of Recent Developments in Education, studied through bivariate product moment correlation and partial correlations under the multivariate analysis approach for the B.Ed. and M.Ed. samples were presented in Table:4.121.

Table:4.121 : The Relationship between Awareness of Recent Developments and Knowledge of Recent Developments in Education:

S. No.	Nature of the Correlation		Sample B.Ed. students	Sample M.Ed. students
(1)	(2)		(3)	(4)
1.	Bivariate Correlation - Product Moment	r_{23} =	-0.0011	0.0855
2.	First order Partial correlation	$r_{23.1}$ =	0.0299	0.0930
3.	First order Partial correlation	$r_{23.4}$ =	-0.0321	-0.0365
4.	First order Partial correlation	$r_{23.5}$ =	0.0050	0.0608
5.	Second order Partial correlation	$r_{23.14}$ =	-0.0510	-0.0408
6.	Second order Partial correlation	$r_{23.45}$ =	-0.0337	-0.0613
7.	Second order Partial correlation	$r_{23.51}$ =	-0.0303	0.0705
8.	Third order Partial correlation	$r_{23.451}$ =	-0.1688**	0.0181

The above Table:4.121 had shown that there was no significant relationship between Awareness and Knowledge of Recent Developments in Education, except in one instance in the B.Ed. sample, wherein under partial Correlation of the third order the influence of other three variables namely utilisation of Sources of Information on Recent Developments, Grade Point Average and Professional Teacher Attitude had been controlled statistically. That relationship was significant and negative in direction because $r_{23.451}$= -0.1688 ($P<.01$). This meant that Awareness of Recent Developments in Education and Knowledge of Recent Developments in Education were two distinct psychological constructs. In the B.Ed. sample, in the third order partial correlation the significant and negative relationship between Awareness and Knowledge of Recent Developments indicated, that those having Awareness of a larger number of Recent Developments in Education among them could have Knowledge of lesser number of Recent Developments in Education.

F:4:3 Awareness of Recent Developments in Education and Utilisation of Sources of Information on Recent Developments:

The pattern of inter-relationship between Awareness of Recent Developments in Education and the Utilisation of Sources of Information on Recent Developments studied with respect to B.Ed. and M.Ed. samples using bivariate product moment correlation and the partial correlations had been shown below in Table:4.122.

Table:4.122: The relationship between the Awareness of Recent Developments in Education and the Utilisation of Sources of Information on Recent Developments in Education:

S. No. (1)	Nature of the Correlation (2)	Sample B.Ed. students (3)	Sample M.Ed. students (4)
1.	Bivariate Correlation-Product Moment	r_{24} = 0.2822	0.3916
2.	First order Partial correlation	$r_{24.1}$ = 0.2339	0.3931
3.	First order Partial correlation	$r_{24.3}$ = 0.2839	0.3857
4.	First order Partial correlation	$r_{24.5}$ = 0.2817	0.3885
5.	Second order Partial correlation	$r_{24.13}$ = 0.2373	0.3864
6.	Second order Partial correlation	$r_{24.35}$ = 0.2836	0.3886
7.	Second order Partial correlation	$r_{24.51}$ = 0.2344	0.3962
8.	Third order Partial correlation	$r_{24.513}$ = 0.2376	0.3969

Note : All the coefficients were significant at 0.01 level.

As seen in Table 4.122, the relationship between Awareness of Recent Developments in Education and the Utilisation of Sources of Information on Recent Developments was throughout positive and significant at 0.01 level in both the B.Ed. and M.Ed. population under bivariate correlation, the partial correlations of the first second and third order. Those who were more aware should have by and large utilised all the more the many Sources of Information on Recent Developments.

If teacher-education establishments sought to promote Awareness

of Recent Developments in Education on the part of their student-teachers doing B.Ed. and M.Ed. courses, they should encourage them to make better Utilisation of Sources of Information on Recent Developments.

F:4:4 Awareness of Recent Developments in Education and Grade Point Average :

The exact nature of inter-relationship between Awareness of Recent Developments in Education and Grade Point Average studied in terms of product moment correlation and partial Correlations of the first, second and third order for both the B.Ed. and M.Ed. sample could be seen below in Table:4.123.

Table:4.123: The relationship between the Awareness of Recent Developments & the University Examination GPA:

S. No. (1)	Nature of the Correlation (2)	Sample B.Ed. students (3)	M.Ed. students (4)
1.	Bivariate Correlation - Product Moment	r_{25} = 0.0196	0.1272
2.	First order Partial correlation	$r_{25.1}$ = -0.0100	0.1298
3.	First order Partial correlation	$r_{25.3}$ = 0.0202	0.1118
4.	First order Partial correlation	$r_{25.4}$ = 0.0054	0.1143
5.	Second order Partial correlation	$r_{25.13}$ = -0.0448	0.1149
6.	Second order Partial correlation	$r_{25.34}$ = 0.0118	0.1238
7.	Second order Partial correlation	$r_{25.41}$ = -0.0168	0.1107
8.	Third order Partial correlation	$r_{25.134}$ = -0.0489	0.1214

As presented in Table:4.123, the relationship between the Awareness of Recent Developments in Education and GPA based on the average of the student performance in three Education papers in the First semester of the University Examination for both B.Ed. and M.Ed. students was very low and had no significance at all in bivariate correlation, and partial correlations of the first, second and

third order. It so happened because the University Examinations were not probably measuring Awareness of Recent Developments in Education.

F:4:5 Knowledge of Recent Developments in Education and Utilisation of Sources of Information on Recent Developments:

The nature of the inter-relationship between Knowledge of Recent Developments in Education and the Utilisation of Sources of Information on Recent Developments studied through the application of bivariate correlation of Pearson's r and the partial correlations of the first, second and third order for both the samples of B.Ed. and M.Ed. students could be referred below in Table:4.124.

Table:4.124: The relationship between the Knowledge of Recent Developments in Education and the Utilisation of Sources of Information on Recent Developments:

S. No. (1)	Nature of the Correlation (2)		Sample B.Ed. students (3)	Sample M.Ed. students (4)
1.	Bivariate Correlation - Product Moment	r_{34} =	0.1046*	0.3017**
2.	First order Partial correlation	$r_{34.5}$ =	0.0953*	0.2968**
3.	First order Partial correlation	$r_{34.1}$ =	0.0839*	0.3479**
4.	First order Partial correlation	$r_{34.2}$ =	0.1093*	0.2923**
5.	Second order Partial correlation	$r_{34.51}$ =	0.0793*	0.3413**
6.	Second order Partial correlation	$r_{34.12}$ =	0.0935*	0.3400**
7.	Second order Partial correlation	$r_{34.25}$ =	0.1021*	0.2965**
8.	Third order Partial correlation	$r_{34.512}$ =	0.0889*	0.3421**

As seen in Table.4.124, the relationship between the Knowledge of Recent Developments in Education and the students' Utilisation of Sources of Information was positive throughout and significant at 0.05 level in the B.Ed. population and at 0.01 level in the M.Ed. population at the bivariate correlation and partial correlations of the first, second and third order. Those students securing better

scores on the Test of Knowledge of Recent Developments tended to utilise more Sources of Information on Recent Developments and this association was more significant in the M.Ed. population.

It was noted earlier, that the association between Utilisation of Sources of Information and Awareness of Recent Developments in Education was significant at 0.01 level in both the B.Ed. and M.Ed. student population. A clear triangular relationship between Awareness of Recent Developments, Knowledge of Recent Developments and Utilisation, of Sources of Information had emerged, as a result of the analysis so far.

F:4:6 Knowledge of Recent Developments in Education and University Examination GPA:

The pattern of relationship between Knowledge of Recent Developments in Education and GPA examined through the product moment method of correlation and partial correlations of first, second and third order could be observed based on Table:4.125, given below:

Table: 4.125 : The relationship between Knowledge of Recent Developments in Education and the University Examination GPA:

S. No. (1)	Nature of the Correlation (2)	Sample B.Ed. students (3)	Sample M.Ed. students (4)
1.	Bivariate Correlation - Product Moment	r_{35} = 0.1953**	0.2095
2.	First order Partial correlation	$r_{35.1}$ = 0.1865**	0.1871
3.	First order Partial correlation	$r_{35.2}$ = 0.1953**	0.2002
4.	First order Partial correlation	$r_{35.4}$ = 0.1913**	0.2017
5.	Second order Partial correlation	$r_{35.12}$ = 0.1863**	0.1807
6.	Second order partial correlation	$r_{35.24}$ = 0.1915**	0.2066
7.	Second order Partial correlation	$r_{35.41}$ = 0.1890**	0.1733
8.	Third order Partial correlation	$r_{35.124}$ = 0.1844**	0.1839

As shown in Table:4.125, the relationship between the Knowledge of Recent Developments in Education and the GPA was definitely positive and significant at 1 percent level in all cases in B.Ed. student population and was not significant in the M.Ed. population. Both the groups had taken the same objective test on Knowledge of Recent Developments. But their University Examinations were different and the subjects they wrote therein were also different. B.Ed. students had written Examinations on (i) Psychological Foundations of Education and Evaluation (ii) Philosophical and sociological Foundations of Education, and (iii)Problems of Indian Education (Historical Approach). In the nature of the subjects, it was possible to include certain Recent Developments in these three papers. Obviously the Test on Recent Developments in Education, and the First Semester Examinations on these three subjects had overlap in subject content or learning outcomes or both and that would explain the significant relationship between B.Ed. student scores on Knowledge of Recent Developments in Education and University Examination GPA.

It should be remembered at this stage, it was observed earlier that the B.Ed. students' Awareness of Recent Developments in Education was not related to their GPA. On the other hand, M.Ed.students got their GPA based on their performance in Examinations in (i) Philosphical and Sociological Foundations of Education, (ii)Research Methodology and Educational Statistics and (iii) one Elective subject out of (a) Secondary and Higher Secondary Education, (b) Higher Education (c) Teacher Education, (d) Non-formal Education (e) Pre-Primary Education. Perhaps there was no significant overlap in the subject-content or in learning outcomes or in both between the objective Test on Recent Developments in Education and the

University Examinations for the M.Ed. course.

F:4:7 Utilisation of the Sources of Information on Recent Developments and University Examination GPA:

Using the bivariate product moment correlation and the partial correlations of the first, second and third order, the inter-relationship between Utilisation of the Sources of Information and Recent Developments and University Examination GPA was investigated and the relevant particulars were placed below in Table:4.126:

Table: 4.126: The relationship between the Utilisation of Sources of Information on Recent Developments in Education and University Examination GPA:

S. No. (1)	Nature of the Correlation (2)		Sample B.Ed. students (3)	Sample M.Ed. students (4)
1.	Bivariate Correlation - Product Moment	r_{45} =	0.0570	0.0573
2.	First order Partial Correlation	$r_{45.1}$ =	0.0270	0.0720
3.	First order Partial correlation	$r_{45.2}$ =	0.0474	0.0088
4.	First order Partial Correlation	$r_{45.3}$ =	0.0314	-0.0064
5.	Second order Partial correlation	$r_{45.12}$ =	0.0301	0.0280
6.	Second order Partial correlation	$r_{45.13}$ =	0.0267	-0.0530
7.	Second order Partial correlation	$r_{45.13}$ =	0.0115	0.0075
8.	Third order Partial correlation	$r_{45.123}$=	0.0130	-0.0415

Note : None of the Coefficient was Significant.

As seen from table-4.126, the relationship between the Utilisation of Sources of Information on Recent Developments in Education and the GPA of B.Ed. and M.Ed. students was very negligibly low and lacked significance in bivariate product moment correlation as well as in first order, second order and third order partial correlations. For Utilisation of the Sources of Information, scores were given on the basis of the number of Sources used out of ten mentioned for each item out of the List of 130 Recent Developments in Education.

University Examinations being what they were, it was possible for students to get high GPA without scoring high on Utilisation of Sources of Information because they might rather depend on one Source such as the College Faculty (formally) and do well in Examinations. Perhaps the Examinations should get reorientated to give better grade for those utilising multiple Sources of Information and could show evidences of having been benefitted by such wide exposure.

F:4:8 Professional Teacher Attitude and Awareness of Recent Developments in Education:

What kind of inter-relationship was noticed between Professional Teacher Attitude and Awareness of Recent Developments in Education in both the B.Ed. and M.Ed. student samples under conditions of bivariate product moment correlation and partial correlations of the first, second and third order could be seen below in Table:4.127.

Table:4.127: The Relationship between the Teacher Attitude and the Awareness of Recent Developments in Education:

S. No. (1)	Nature of the Correlation (2)			Sample B.Ed. students (3)	Sample M.Ed. students (4)
1.	Bivariate Correlation-Product Moment	r_{12}	=	0.2722**	-0.0148
2.	First order Partial Correlation	$r_{12.3}$	=	0.2737**	-0.0384
3.	First order Partial Correlation	$r_{12.4}$	=	0.2214**	0.0296
4.	First order Partial Correlation	$r_{12.5}$	=	0.2717**	0.0904
5.	Second order Partial correlation	$r_{12.34}$	=	0.2249**	-0.1359
6.	Second order Partial Correlation	$r_{12.45}$	=	0.2220**	0.0157
7.	Second order Partial Correlation	$r_{12.53}$	=	0.2731**	-0.0461
8.	Third order Partial correlation	$r_{12.345}$	=	0.2247**	-0.1573

As presented in Table:4.127, the relationship between Professional Teacher Attitude and Awareness of Recent Developments in Education was stably positive and significant at 0.01 level in the B.Ed. population at the bivariate product moment correlation as well as partial correlations of the first, second and third order. The relationship between Professional Teacher Attitude and Awareness of Recent Developments in Education with respect to M.Ed. student population was low and lacked significance. Probably at the undergraduate stage of teacher-education Professional Teacher Attitude had for more significance as such than at the post-graduate stage in the M.Ed. class. Professional Teacher Attitude could be a determinant of many other professional Characteristics such as Awareness of Recent Developments in Education at the B.Ed. level. At the M.Ed.level, other variables such as Teacher Morale, organisational climate of the school wherein the M.Ed. students were serving in the case of Evening College students, organisational climate of the college of Education and the Leadership Behaviour of the Principal could be more influential variables with reference to M.Ed. students' Awareness of Recent Developments in Education.

F:4:9 Professional Teacher Attitude and Knowledge of Recent Developments in Education:

The nature of inter-relationship between Professional Teacher Attitude and Knowledge of Recent Developments in Education on the basis of the application of the bivariate product moment correlation and the partial correlations of the first, second and third order could be examined in the following Table:4.128.

Table:4.128: The relationship between Teacher Attitude and Knowledge of Recent Developments in Education.

S. No. (1)	Nature of the Corelation (2)		Sample B.Ed. students (3)	Sample M.Ed. students (4)
1.	Bivariate Correlation-product Moment	r_{13} =	0.1009*	0.2521**
2.	First order Partial correlation	$r_{13.2}$ =	0.1052*	0.2538*
3.	First order Partial correlation	$r_{13.4}$ =	0.0791	0.1312
4.	First Order Partial correlation	$r_{13.5}$ =	0.0820	0.2400*
5.	Second order Partial correlation	$r_{13.24}$ =	0.0884*	0.1324
6.	Second order Partial correlation	$r_{13.45}$ =	0.0617	0.1095
7.	Second order Partial correlation	$r_{13.52}$ =	0.0866*	0.1571
8.	Third order Partial correlation	$r_{13.452}$ =	0.0710	0.1107

As presented in Table:4.128, the relationship between Teacher Attitude and Knowledge of Recent Developments was positive and significant in product moment correlation in both the B.Ed. and M.Ed. student populations. Though the relationship between X_1 and X_3 remained positive in all the partial correlations in both the groups, yet it weakened and lost its significance in some of these partial correlations. It could be observed that when certain other variables were controlled the relationship between X_1 and X_3 became low and lost its significance.

The relationship between Professional Teacher Attitude and Knowledge of Recent Developments in Education was dependent upon their common relationships with other educational variables.

F:4:10 Professional Teacher Attitude and Utilisation of Sources of Information on Recent Developments:

The application of product moment Correlation and the partial correlations of the first, second and third order for studying the relationship between Professional Teacher Attitude and Utilisation

of Sources of Information in the B.Ed.. and M.Ed. student samples had revealed the following as placed in Table:4.129.

Table:4.129: The relationship between Teacher Attitude and the Utilisation of Sources of Information of Recent Developments:

S. No. (1)	Nature of the Correlation (2)		Sample B.Ed. students (3)	M.Ed. students (4)
1.	Bivariate Correlation - Product Moment	r_{14} =	0.2325**	-0.1252
2.	First order Partial correlation	$r_{14.2}$ =	0.1687**	-0.1293
3.	First order Partial correlation	$r_{14.3}$ =	0.2243**	0.2178
4.	First order Partial correlation	$r_{14.5}$ =	0.2286**	-0.1329
5.	Second order Partial correlation	$r_{14.23}$ =	0.1529**	0.2523*
6.	Second order Partial correlation	$r_{14.35}$ =	0.2226**	0.2202
7.	Second order Partial correlation	$r_{14.52}$ =	0.1647**	0.1571
8.	Third order Partial correlation	$r_{14.523}$=	0.1573**	0.0940

As presented in Table:4.129, the relationship between Teacher Attitude and the Utilisation of Sources of Information was stably positive and significant at zero order correlation and in all the first, second and third order partial correlations in the B.Ed.student population of the Madras University. The relationship between X_1 and X_4 was significant and positive in only one case in the M.Ed. population, when the two variables X_2 and X_3 were partialed out; otherwise the relationship had no significance in the M.Ed.population.

It was noted earlier, that Professional Teacher Attitude of M.Ed. students had no significant relationship with their Awareness of Recent Developments in Education.

F:4:11 Professional Teacher Attitude and University Examination GPA:

The pattern of inter-relationship between Professional Teacher Attitude and University Examination GPA with respect to B.Ed. and M.Ed. samples was investigated by applying bivariate correlation of Pearson's r and the partial correlations of the first, second and third order and the particulars pertaining to these could be referred below in Table 4.130:

Table:4.130: The relationship between Teacher Attitude and University Examination GPA:

S. No. (1)	Nature of the Correlation (2)		Sample B.Ed. students (3)	Sample M.Ed. students (4)
1.	Bivariate Correlation - Product Moment	r_{15} =	0.1072*	0.1152
2.	First order Partial correlation	$r_{15.2}$ =	0.1059*	0.1179
3.	First order Partial correlation	$r_{15.3}$ =	0.0897*	0.0655
4.	First order Partial correlation	$r_{15.4}$ =	0.0981*	0.1231
5.	Second order Partial correlation	$r_{15.23}$ =	0.0875*	0.0708
6.	Second order Partial correlation	$r_{15.34}$ =	0.0849*	0.0685
7.	Second order Partial correlation	$r_{15.42}$ =	0.0999*	0.1200
8.	Third order Partial correlation	$r_{15.234}$ =	0.0844*	0.0872

As presented in Table:4.130, the association between Teacher Attitude and GPA was very stable, positive and significant in the B.Ed. population in bivariate correlation as well as partial correlations of the first, second and third order. However the relationship between these two variables was never significant in the M.Ed. population. It was but appropriate that the attitude of the students was important at the B.Ed. course. Attitude became less important for the M.Ed. group which was older and experienced in teaching, by and large.

M.Ed. students' Professional teacher Attitude did not have significant relationship with their Awareness of Recent Developments in Education,

Utilisation of Sources of Information on Recent Developments and University Examination Grade Point Average. This had clearly meant that at the M.Ed. level, particularly in a dominantly in-service group of students Professional Teacher Attitude was not a very influential variable. As mentioned earlier, other variables not included in this study such as Teacher Morale, Organisational climate of school, and college of Education and Leadership Behaviour of the Head of the institution could be possibly more important variables and might be related to M.Ed. students' Awareness and Knowledge of Recent Developments in Education.

F:4:12: CONCLUSION :

With specific reference to one of the objectives of this investigation to find the relationships among the five educational variables cast in this study, the multivariate analysis with the use of partial correlations of the first, second and third order brought out eertain very significant outcomes.

(i) Even after nullifying the influence of three other educational variables, the positive and significant relationship that was found in product moment correlation between the following two pairs of variables in both the B.Ed. and M.Ed. samples continued.

(a) Awareness of Recent Developments in Education and Utilisation of the Sources of Information.

(b) Knowledge of Recent Developments in Education and Utilisation of the Sources of Information.

This implied that teacher-education programmes should strive to promote better utilisation of the Sources of Information on Recent Developments and that would be a worthy goal to be pursued.

(ii) There was no significant relationship between Awareness of Recent Developments and Knowledge of Recent Developments in Education under product moment correlation and partial correlations of the first, second and third order in the M.Ed. sample. The positive and significant relationship between these two variables under product moment correlation in the B.Ed. sample totally reversed its direction under partial correlation of the third order. In teacher-education curriculum, Awareness of student-teachers of Recent Developments and knowledge of Recent Developments in Education should be viewed as two distinct goals and the programme should be geared to fulfill both of them.

(iii) There was positive and significant relationship between Professional Teacher Attitude and Knowledge of Recent Developments in Education in product moment correlation in both the B.Ed. and M.Ed. samples. But after the application of the statistical technique of partial correlation of the third order, through which the effect of three other variables on these two variables was neutralised, a significant and positive relationship between Teacher Attitude and Knowledge of Recent Developments persisted in the B.Ed. sample while that was lost in the M.Ed. sample. That implied at the undergraduate level, Attitude and Knowledge may be associated together while such association could not be presumed at the post-graduate stage.

(iv) Professional Teacher Attitude was found significantly and positively related (in product moment correlation and partial correlations of the third order) to Awareness of Recent Developments, knowledge of Recent Developments, utilisation

of Sources of Information and Grade Point Average in the B.Ed. sample. Such relationships were not found for Professional Teacher Attitude in the M.Ed. sample. That implied the development of proper Professional Teacher Attitude should be a major goal of teacher-education at the B.Ed. level because with its development, performance in many other educational requirements could be associated. At the post-graduate stage for the M.Ed. sample, Teacher Attitude stood in an isolated position. Possibly Professional Teacher Attitude at that level as a Construct might have association with variables such as organisational climate of the schools and colleges of Education, Teacher-Morale, Leadership Behaviour of the school Headmasters and the Principals of Colleges of Education, because more than three-fourths of the M.Ed. sample were in-service teacher-candidates.

(v) In this study, it had been observed that Grade Point Average (based on student-teachers' performance in university Examinations) had no significant relationship with any other educational variable in the M.Ed. sample (in any of the correlations). In the B.Ed. sample GPA was positively related to Professional Teacher Attitude and Knowledge of Recent Developments and was not related to the other two variables namely Awareness of Recent Developments and Utilisation of the Sources of Information (in product moment correlations and partial correlations). GPA as a construct might not have commonality with Awareness of Recent Developments and Utilisation of Sources of Information among the student-teachers at both the B.Ed. and M.Ed. levels. At the

post-graduate stage GPA could represent a very specialised skill of getting high grades in University Examinations, without having significant overlap with the other educational variables cast in this investigation. Since this was the first investigation of this type, it was not possible to seek support from other researches for the findings, inferences and implications of this study. Researchers who follow might be expected to make such comparative discussions.

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SECETION : 6 :

G PREDICTION OF AWARENESS AND KNOWLEDGE OF RECENT DEVELOPMENTS OF B.Ed. AND M.Ed. STUDENTS USING MULTIPLE REGRESSION ANALYSIS :

G:1 Introduction :

(1) As discussed earlier, this investigation had focussed upon the Awareness and Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. students viewed as criterion variables and the correlates of such Awareness and Knowledge of Recent Developments. In this regard, the Utilisation of Sources of Information on Recent Development by the B.Ed. and M.Ed. students and their Professional Teacher Attitude and Grade Point Average had been studied as the correlates of their Awareness and Knowledge of Recent Developments in Education. It meant that student-teachers of B.Ed. and M.Ed. courses could view Awareness and Knowledge of Recent Developments in Education, Utilisation of Sources of Information on Recent Developments, Professional Teacher Attitude and Grade Point Average as the five educational requirements on their part to be achieved among other things before completing B.Ed. and M.Ed. courses.

(2) In this investigation, one of the objectives was to study the inter-relationships among these five educational variables because it was expected a clear understanding of such inter-relationships would be useful for these designing the curriculum for teacher-education at the secondary level, the teacher-educators dealing with B.Ed.

and M.Ed. students and educational researchers in the country. Towards this objective, bivariate correlations using product moment method was applied in the fourth section of this chapter for the B.Ed. and M.Ed. samples separately and the strength of inter-relationships among these five variables was tested for significance. The bivariate correlation approach might not by itself be adequate to study the inter-relationships among the five variables, because the relationship between any two variables might not always be direct, and that could be due to some common association they might have with a third or other variables. Therefore the multivariate analysis approach was considered essential for studying the relationship between these five educational variables and as part of this the partial correlations of the first, second and third order were applied in the fifth section of this Chapter. The relationship between any two educational variable was studied, by statistically controlling first one, later two, and finally three other variables under conditions of partial correlation of the first, second and third order. Abundant conceptual interpretations were put forth for explaining these relationships in the last part of the fifth section.

(3) Since one of the objectives of this investigation had been predicting the Awareness and knowledge of Recent Developments of the B.Ed. and M.Ed. students, based on the other three educational variables, this had been attempted in this section. Awareness and Knowledge of Recent Developments in Education were the two criterion variables and the other three educational

variables would be treated as predictor variables in this predictive part of the investigation in this section. It had been thought the multiple correlation and multiple analysis used in this section could also help to explain the relationships among the variables.

(4) There are several methods in multiple regression, 'Doolitlle' method, Aitkens' method, Step-wise Regression, the Forward Selection and the Backward Elimination approach are the ones frequently used in educational research. In this study, the multiple regression analysis involved the use of Backward Solution Approach, wherein step by step predictor variables could be deleted and for arriving at the right number of predictor variables that could account for the variance in the criterion variable. While predicting Awareness and Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. student-populations, in each case, the best fitting multiple regression equation was presented. The particulars relating to Multiple Regression Equations for predicting the two criterion educational variables with reference to the B.Ed. sample was placed in Appendix XXV.A and similar particulars with reference to the M.Ed. sample were located in Appendix XXV.B. The Standard Errors of the partial regression co-efficients were calculated and the level of significance of the regression coefficients was also reported, keeping 5% as minimum acceptable level of significance. The prediction of Awareness and Knowledge of Recent Developments was attempted for the population of B.Ed. and M.Ed. students separately.

G:2 Prediction of Awareness of Recent Developments in Education for the B.Ed. student-population:

Taking Awareness of Recent Developments in Education of the B.Ed. students, as the criterion variable and their Utilisation of Sources of Information, Grade Point Average and Professional Teacher Attitude as the predictor variables, the multiple correlation was $R_{2.451} = 0.3535$ (F being 25.8129, it was significant at 0.01 level). The particulars relating to the study of significance of Multiple R's with reference to B.Ed. population were placed in Appendix XXVI.A. The following was the Multiple Regression equation:

$$X_2 = \underset{(0.069)}{0.516^{**}X_4} + \underset{(0.941)}{0.388\,X_5} - \underset{(0.097)}{0.367^{**}\,X_1} + 16.045$$

and R^2 being 0.1250, this equation could explain 12.50% of the variation in the criterion variable.

An attempt could be made to delete one variable at a time out of the three predictor variables and see whether it resulted in any loss to R^2 (because prediction should be done with the lowest number of predictor variables without loss of the extent of variance that could be accounted for in the criterion variable).

Table:4.131: Prediction of B.Ed. students' Awareness of Recent Developments-First Step in Backward Solution in Multiple Regression:

Variable delted (1)	Operation (2)	Proportion of Variance Lost (3)	df (4)	F Ratio (5)
Teacher Attitude	$R^2_{2.451} - R^2_{2.45}$	0.1250-0.0796 = 0.0454	1&542	281.2206**
GPA	$R^2_{2.451} - R^2_{2.41}$	0.1250-0.1248 = 0.0002	1&542	1.2389
Utiliti-sation	$R^2_{2.451} - R^2_{2.51}$	0.1250-0.0741 = 0.0509	1&542	315.2891**

The F-values shown in column No.5 in the above Table had been calculated by using the following formula*

$$F = \frac{(R_1^2 - R_2^2)}{(1 - R_1^2)} \frac{(N - m_1 - 1)}{(m_1 - m_2)}$$

Where R_1 = multiple R with larger number of predictor variables.

R_2 = multiple R with one or more variables omitted.

m_1 = larger number of predictor variables.

m_2 = Smaller number of predictor variables.

In the same Table, in the fourth column was indicated the degrees of freedom. In the use of F tables, the df_1 degrees of freedom were given by $(m_1 - m_2)$ and the df_2 degrees of freedom by $(N - m_1 - m_2)$

As stated in Table.4.131, the deletion of Professional Teacher Attitude (X_1) or Utilisation of Sources of Information (X_4), from multiple regression could not be done without loss to R^2. But the deletion of GPA (X_5) from the multiple regression could be effected without materially affecting the predictive ability. Hence $R^2_{2.41}$ was accepted as having produced the best result and the corresponding multiple regression equation, as given below was accepted.

$$\bar{X}_2 = \underset{(0.069)}{0.387^{**}} X_4 + \underset{(0.097)}{0.512^{**}} X_1 + 14.885$$

$R_{2.41}$ was 0.3532

This equation could account for 12.48% of the variance in the criterion variable of Awareness of Recent Developments in Education

of the B.Ed. students. In this equation, both the partial regression co-efficients were significant at 0.01 level and therefore both Utilisation of Sources of Information on Recent Developments and Professional Teacher Attitude of the B.Ed. students were making significant contribution to the prediction of their Awareness of Recent Developments in Education. The details concerning testing the partial regression Co-efficients for significance with reference to the B.Ed. population could be seen in Appendix XXVII.A.

G:3 Prediction of Awareness of Recent Developments in Education for the M.Ed. student-population:

Considering the Awareness of Recent Developments in Education of the M.Ed. students as the criterion variable, and their utilisation of Sources of Information, Grade Point Average, and Professional Teacher Attitude as the predictor variables, the multiple correlation obtained was $R_{2.451} = 0.4080$ (F being 4.9239 for df of 3 & 74, it was significant at 0.01 level. The details pertaining to testing the significance of Multiple R's with reference to the M.Ed. population could be referred in Appendix XXVI.B. The following was the Multiple Regression equation:

$$\bar{X}_2 = \underset{(0.1534)}{0.109\ X_4} + \underset{(2.3565)}{0.557\ X_5} - \underset{(0.2519)}{0.024\ X_1} + 52.365$$

All the three predictor variables were not contributing significantly because the partial regression co-efficients were not significant, their Standard Errors being large. The details concerning testing the partial regression co-efficients for their significance with reference to the M.Ed. population could be consulted in Appendix XXVII.B. Under the first step

in Backward Solution, an attempt was made to delete one variable at a time out of the three predictor variables and see whether it resulted in any loss to R^2.

Table:4.132: Prediction of M.Ed. students' Awareness of Recent Developments-First step in Backward Solution in Multiple Regression:

Variable deleted (1)	Operation (2)	Proportion of Variance Lost (3)	df (4)	F Ratio (5)
Teacher Attitude	$R^2_{2.451} - R^2_{2.45}$	0.1665-0.1643 = 0.0022	1 & 74	0.1953
GPA	$R^2_{2.451} - R^2_{2.41}$	0.1665-0.1545 = 0.0120	1 & 74	1.0654
Utilisation of SI	$R^2_{2.451} - R^2_{2.51}$	0.1665-0.0162 = 0.1503	1 & 74	13.3440**

As stated in Table.4.132, at the first step in the backward solution, when an attempt was made to delete Utilisation of Sources of Information (X_4) from the multiple regression, it resulted in a serious loss of variance accounted for, near about 15.03% and was statistically also significant ($P<.01$). Next when GPA (X_5) was dropped from the multiple regression, it meant a loss of 1.20% in the variance accounted for of the criterion variable. But when Professional Teacher Attitude was dropped from the multiple regression, there was no serious or significant loss to R^2 and therefore it was decided to drop this predictor variable. Hence $R^2_{2.45}$ was accepted as having produced the best fit and the corresponding multiple regression equation was as follow:

$$\bar{X}_2 = \underset{(0.151)}{0.549^{**} X_4} - \underset{(2.330)}{2.32 X_5} + 59.026$$

$R_{2.45}$ was 0.4054 and this equation could account for 16.43% of the

variance in the criterion variable of Awareness of Recent Developments in Education of the M.Ed. students. In this equation, only one partial regression Co-efficient was significant at 0.01 level and only utilisation of Sources of Information of M.Ed. students was making a significant contribution to the prediction of Awareness of Recent Developments in Education, while GPA did not make such contribution to prediction.

G:4 Prediction of Knowledge of Recent Developments in Education B.Ed. student-population:

Taking Knowledge of Recent Developments in Education of the B.Ed. students as the criterion variable and their Utilisation of Sources of Information, Grade Point Average and Professional Teacher Attitude as the predictor variables, the multiple correlation was $R_{3.451} = 0.2253$ (F being 9.7094 for df of 3 and 74, it was significant at 0.01 level). The following was the multiple regression equation:

$$\bar{X}_3 = \underset{(0.073)}{0.148^{*}} X_4 + \underset{(0.992)}{0.137} X_5 + \underset{(0.102)}{4.348^{**}} X_1 + 14.654$$

and $R^2_{3.451}$ being 0.0508, the equation could explain only 5.08% of the variance in the criterion variable.

In the backward solution in multiple regression, at the first step, an attempt was made to delete one variable at a time from the above equation and examine whether it resulted in any loss to R^2, as shown in Table:4.133.

Table:4.133: Prediction of B.Ed. students' Knowledge of Recent Developments-First step in the Backward Solution in Multiple Regression:

Variable deleted (1)	Operation (2)	Proportion of Variance Lost (3)	df (4)	F Ratio (5)
Teacher Attitude	$R^2_{3.451} - R^2_{3.45}$	0.0508-0.0471= 0.0037	1 & 542	2.0556
GPA	$R^2_{3.451} - R^2_{3.41}$	0.0508-0.0171= 0.0337	1 & 542	19.2429**
Utilisation of SI	$R^2_{3.451} - R^2_{3.51}$	0.0508-0.0446= 0.0062	1 & 542	3.4444

As stated in Table 4.133, the deletion of GPA (X_5) from the multiple regression could not be done without serious loss to R^2. But the deletion of the predictor variables either Professional Teacher Attitude or Utilisation of the sources of Information could be effected without materially affecting the predictive ability. It was considered Utilisation of Sources of Information on Recent Developments was a variable having closer association with the criterion variable of Knowledge of Recent Developments in Education and on that educational reasoning, it was not desirable to eliminate that predictor variable. Professional Attitude as a predictor variable was decided to be removed from the multiple regression. Hence $R^2_{3.45}$ was accepted as having produced the best fit and the corresponding multiple regression equation was accepted and given below:

$$\bar{X}_3 = \underset{(0.071)}{0.161^{*} X_4} + \underset{(0.984)}{4.489^{**} X_5} + 23.304$$

$R_{3.45}$ was 0.2171 and this equation could account for only 4.71% of the variance in the criterion variable of Knowledge of Recent

Developments in Education of the B.Ed. students. In this equation, both the partial regression coefficients were significant and therefore Utilisation of Sources of Information on Recent Developments and Grade Point Average of the B.Ed. students were making significant contribution (the former at 0.05 level and the latter at 0.01 level) to the prediction of their knowledge of Recent Developments in Education.

G:5 Prediction of Knowledge of Recent Developments in Education for the M.Ed. student-population:

Considering Knowledge of Recent Developments in Education of the M.Ed. students as the criterion variable and taking their Utilisation of Sources of Information, Grade Point Average and Professional Teacher Attitude as the predictor variables, the multiple correlation was $R_{3.451} = 0.4637$ (F being 6.7559 for df of 3 & 74, it was significant at 0.01 level). The following was the multiple regression equation.

$$\bar{X}_3 = \underset{(0.120)}{0.490^{**}} X_4 + \underset{(0.723)}{0.381} X_5 + \underset{(0.190)}{3.369^{**}} X_1 + 4.503$$

and $R^2_{3.451}$ being 0.2150, the equation could account for 21.50% of the variance in the criterion variable.

In the backward solution in multiple regression, at the first step, an attempt was made to delete one variable at a time from the above equation and examine whether it resulted in any loss to R^2, as shown in Table 4.134.

Table:4.134: Prediction of M.Ed. students' Knowledge of Recent Developments - First step in the Backward Solution in Multiple Regression:

Variable deleted (1)	Operation (2)	Proportion of Variable Lost (3)	df (4)	F ratio (5)
Teacher Attitude	$R^2_{3.451} - R^2_{3.45}$	0.2150-0.1427 = 0.0723	1 & 74	6.8208*
GPA	$R^2_{3.451} - R^2_{3.41}$	0.2150-0.1764 = 0.0386	1 & 74	3.6415
Utilisation of SI	$R^2_{3.451} - R^2_{3.51}$	0.2150-0.0965 = 0.1185	1 & 74	11.1792**

As stated in Table,4.134,the deletion of Utilisation of Sources of Information on Recent Developments (X_4) or the Professional Teacher Attitude could not be done without serious loss to R^2. But the deletion of the predictor variable GPA from the multiple regression could bring about a loss of 3.86% to the variance accounted for the criterion variable and the F Ratio was 3.6415, a little less than 3.97 to be significant at 0.05 level. It was therefore decided not to delte any variable in the backward solution approach to multiple regression.

Hence the following was the multiple regression equation that was deemed to have produced the best fit:

$$\bar{X}_3 = \underset{(0.120)}{0.490^{**}} X_4 + \underset{(0.730)}{0.381} X_5 + \underset{(0.190)}{3.369^{**}} X_1 + 4.503$$

$R_{3.451}$ was 0.4637 and $R^2_{3.451}$ being 0.2150, the above equation could account for 21.50% of the variance of M.Ed. students' Knowledge of Recent Developments in Education. Among the three partial regression coefficients two were significant at 0.01 level and therefore both Utilisation of Sources of Information on Recent

Developments and Professional Teacher Attitude of M.Ed. students made significant contribution to the prediction of their Knowledge of Recent Developments in Education.

G:6 DISCUSSION:

The multiple regression analysis involving the 'Backward Solution Approach' was used in this sixth section of this Chapter towards the objective of predicting the two criterion variables namely, Awareness of Recent Developments in Education and Knowledge of Recent Developments in Education of the B.Ed. and M.Ed. student populations separately. The best fitting regression equation was given for each criterion variable with the least number of predictor variables according to the Backward Solution approach. The percentage of variance accounted for in the criterion variable by each equation was mentioned and the level of significance of the partial regression Co-efficients were also reported.

With reference to the B.Ed. sample, the percentage of variance accounted by the multiple regression equation was 12.48% in the case of Awareness of Recent Developments in Education and 4.71% in the case of Knowledge of Recent Developments in Education. The percentage of variation accounted by the multiple regression equation with reference to the M.Ed. sample in its Awareness of Recent Developments in Education was 16.43% and in the case of Knowledge of Recent Developments in Education was 21.50%.

Besides serving the purpose of prediction of criterion variables, this kind of analysis could explain the relationships among these variables. In this study Utilisation of Sources of Information on Recent Developments had emerged as a variable closely related to both Awareness and Knowledge of Recent Developments in

Education of B.Ed. and M.Ed. samples. Professional Teacher Attitude of the student-teachers helped predicting Awareness of Recent Developments in B.Ed. sample and Knowledge of Recent Developments with respect to M.Ed. sample. GPA was contributing to the prediction of B.Ed. students' Knowledge of Recent Developments in Education. It was difficult to explain the relationships among these variables in the absence of research studies of this sort.

The multiple regression equations produced for the criterion variables viz. Awareness and Knowledge of Recent Developments in Education were the first of its kind. If replication studies could be undertaken, they would help to validate these equations. Far more important than these equations could be further studies of Awareness and Knowledge of Recent Developments in Education of the student-teachers using other research approaches.