DIFFERENCE IN THE CONGNITIVE STYLES AND LEARNING SKILLS DUE TO GENDER AND AREA-WISE DIFFERENCES

Bindu Kenth

New researches and studies in education have made us increasingly aware about new potentialities in learning. Some important ones among these relate to grasping and understanding as well as earning capabilities to experiment and innovate. We have to consider, however, that apart from connections that exist between aspects of the learning practice, differences and distinctions also exist. This paper attempts to examine such differences keeping in view the role that academic areas and social factors play in the making of education-related concepts.

KEYWORDS : intelligence; cognition and learning; field independence; study skills; significant difference.

The concepts of cognitive styles and study skills have recently assumed a special significance in educational contents because these are considered important dimensions of individual difference that constitute the core basis of effective instructional programme. Some Proponents of these constructs categorically hold that these are more useful than intelligence, personality or as a matter of fact any other variable in predicting the academic achievement of students

INTRODUCTION

Researchers and educationists are now attempting a thorough work in the area of cognitive and learning styles and have found it crucial in influencing the student's learning. Emphasizing the need of diagnose the learning styles of the students. Dunn and Dunn (1975) said, "To bring the learners of varied differences into a confining environment and to group them in a way that makes educational sense in virtually impossible unless we examine each of these complex individuals to identify exactly, how he or she is likely to learn more effectively". It is now being increasingly realized that cognitive styles and learning styles of students do effect their achievement. These need to be probed deeper.

Review of Related Literature

Cognitive Styles and Academic Achievement

Verma and Swain (1991) studied the effect of cognitive style on scholastic achievement and showed that field independent cognitive style group obtained significantly higher mean scores in English, Maths, General Science, Social Studies and Drawing separately and together than their field dependent counterparts.

Kirk (2000) investigated the relationship of cognitive style to achievement in chemistry. Results indicated that field independence has significantly correlated with academic achievement in chemistry.

Kumar (2006) in his study found that tribal and non-tribal students of 12^{th} grade differed significantly with respect to field independent and field dependent cognitive styles. Non-tribal students were found higher on field independent cognitive styles than tribal students.

Geetanjali conducted "a study of academic achievement in relation to cognitive styles and hemisphericity at secondary stage" and found that cognitive styles had a significant effect on a student's academic achievement. The more the field independence given to the students, the higher became the academic achievement.

Study Skills And Academic Achievement

Abraham (1973) revealed that study habits do not play a significant influence on English achievement.

Bala (1990) in her study found a positive relationship between study habits and academic achievement.

Verma (2001) found that there is no significant difference in the study skills of science and Arts groups.

Dinesh (2003) found significant difference in the study habits of Arts and Science students but Science students were not different from Commerce students in their study habits.

Gakhar (2005) in her study found positive significantly correlation in the study skills and academic achievement of students.

Objective of The Study

- To find the differences in the cognitive and learning skills of male, female, urban and rural prospective teachers.

HYPOTHESES

1. There will be a significant difference in the cognitive styles of male and female prospective teachers.
2. a) There will be a significant difference in the goal orientation study skills of male and female prospective teachers.
   b) There will be a significant difference in the activity structure study skills of male and female prospective teachers.
   c) There will be a significant difference in the scholarly study skills of male and female prospective teachers.
   d) There will be a significant difference in the lecture mastery study skills of male and female prospective teachers.
   e) There will be a significant difference in the Text book mastery study skills of male and female prospective teachers.
   f) There will be a significant difference in the examination mastery study skills of male and female prospective teachers.
   g) There will be a significant difference in the self mastery study skills of male and female prospective teachers.
   h) There will be a significant difference in the between study skills of male and female prospective teachers.
3. There will be a significant difference in the cognitive styles of urban and rural prospective teachers.
4. a) There will be a significant difference in the goal orientation study skills of urban and rural teachers.
   b) There will be a significant difference in the activity structure study skills of urban and rural teachers.
   c) There will be a significant difference in the scholarly study skills of urban and rural teachers.
   d) There will be a significant difference in the lecture mastery study skills of urban and rural teachers.
   e) There will be a significant difference in the Text book mastery study skills of urban and rural teachers.
   f) There will be a significant difference in the examination mastery study skills of urban and rural teachers.
   g) There will be a significant difference in the self mastery study skills of urban and rural teachers.
   h) There will be a significant difference in the study skills of urban and rural teachers.

METHOD

Survey method of investigation was employed in the present study.

SAMPLE

In the present study, institutions were selected randomly. Then a sample of 800 B. Ed students was taken on the basis of cluster sampling technique from colleges of education affiliated to P.U. Chandigarh.

TOOLS

1. Group Embedded figures test (GEFT)-(WITKIN et al. 1971)
2. The Cornell Learning and study skills inventory (Walter, P and Cassel R, 1971)
3. Academic achievement of the B.Ed. students was measured from their final Exams marks and this was converted into percentage.

STATISTICAL TECHNIQUES USED

Means, standard deviations and t-ratios were worked out to find the difference in the cognitive styles and study skills due to gender differences and rural urban differences.

SIGNIFICANCE OF THE PROBLEM

During the past three decades, some amount of research has been done in the field of cognitive styles as well as study skills in the foreign countries. As far as India is concerned this field has not been explored fully. There are few researchers who investigated the school children but none of the researchers have studied academic achievement of B.Ed. prospective teachers in relation to their cognitive styles and study skills.

Significance of the study lies in the fact that if teacher educators accommodate an array of cognitive and learning styles by systematic varying teaching and assessment methods to teach every prospective teacher, they will observe immediate and powerful increase in the academic achievement of prospective teachers.

Further, it is needless to mention that knowledge of relationship of cognitive styles, learning styles and study skills and academic achievement render a great help to student, teachers, teacher educators, guidance workers, curriculum designers as well as educational managers in the improvement of total teaching learning process.

It has been seen by researchers that there are gaps between the teaching styles of the teachers and learning styles of the learners. Because of this mismatch the students may become bored and get discouraged.

Some learners may lose interest and leave the study. Therefore, the findings of the present study will be helpful in bridging these gaps.

Analysis of Data And Discussion of Results

Study Skills and Sex-difference

Table 1

Values of mean, SD and t-ratio to locate difference in the Goal Orientation due to gender differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-Value	Level of Significance
1.	Goal Orientation Study Skill	Male	175	M.24	2.50	798	.764	Not Significant
		Female	625	9.39	2.37			

It was noted from the results of table 5.11 that insignificant difference exists in the goal orientation study skills of male and female pupil teachers due to insignificant t-value (t = 0.764) at .05 level. Their mean scores were also not very much different.
Therefore, hypothesis 2(a) was not accepted.

Table 2

Values of mean, SD and t-ratio to locate difference in the Activity Structure due to gender differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-Value	Level of Significance
2.	Activity Structure	Male	175	10.53	3.04	798	.045	Not Significant
		Female	625	10.52	2.94			

Table 2 revealed insignificant difference in the activity structure of male and female pupil teachers due to insignificant t-value (t = 0.045) at .05 level of significance. Also mean scores of male and female pupil teachers were not very much different.
Thus, hypothesis 2(b) was not accepted.

TABLE 3

Values of mean, SD and t-ratio to locate difference in the Scholarly Skills due to gender differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-Value	Level of Significance
3.	Scholarly Skills	Male	175	11.77	3.71	798	1.079	Not Significant
		Female	625	12.12	3.75			

From the results of table 3 it was observed that insignificant differences exist in the scholarly skills of male and female pupil teachers due to insignificant t-value (t = 1.079) at .05 level, although female pupil teachers scored higher on this variable (mean =12.12) as compared to male pupil teachers (mean = 11.77).

Therefore, hypotheses 2(c) was not accepted.

TABLE 4

Values of mean, SD and t-ratio to locate difference in the Lecture Mastery Study Skills due to gender differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
4.	Lecture Mastery Study Skills	Male	175	10.01	3.34	798	0.655	Not Significant
		Female	625	10.18	3.00			

Results of table 4 presented insignificant differences in the lecture mastery study skills of male and female pupil teachers due to insignificant t-value (t = 0.655) at .05 level. Further, there was not much difference in the mean lecture mastery study skill of male and female pupil teachers.
Thus, hypothesis No. 2 (d) was not accepted.

TABLE 5

Values of mean, SD and t-ratio to locate difference in the Text book Mastery Study Skills due to gender differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
5.	Text Book Mastery Skills	Male	175	11.89	4.24	798	.369	Not Significant
		Female	625	11.75	4.33			

Insignificant difference was found in the text-book mastery study skill of male and female pupil teachers due to insignificant t-vale (t = 0.369) at .05 level. Also, the mean scores on the measure of text-book mastery study skills were not much different.

Therefore hypothesis 7(e) that there will be significant differences in the text-book mastery study skills of male and female pupil teachers was not accepted.

TABLE 6

Values of mean, SD and t-ratio to locate difference in the Examination Mastery Study Skills due to gender differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
6.	Examination Mastery Skills	Male	175	9.22	3.66	798	*1.99	.05
		Female	625	8.97	3.74			

* Significant at.05 level

Due to significant t-value (t = 1.99) as entered in table 6), significant difference was obtained in the examination mastery study skill of male and female pupil teachers. After comparing their mean scores it was found that male pupil teachers scored higher mean scores (mean = 9.22) as compared to female pupil teachers (mean = 8.97).

The above results may be due to the fact that males become serious near the examination. They prepare themselves well and take the examination with confidence.
Therefore, hypothesis 2(f) was accepted.

TABLE 7

Values of mean, SD and t-ratio to locate difference in the Self Mastery Study Skills due to gender differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
7.	Self-Mastery Study Skills	Male	175	6.92	4.18	798	.535	Not Significant
		Female	625	6.72	4.36			

Results as entered in table 7 revealed insignificant differences in the self-mastery study skills of male and female pupil teachers due to insignificant t-value (t=0.535) at .05 level of significance. Further, their mean scores were also not found to be very much different.
Therefore hypothesis 2(g) was not accepted.

TABLE 8

Values of mean, SD and t-ratio to locate difference in the Study Skills (Total) due to gender differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
8.	Study Skills (Total)	Male	175	69.43	16.19	798	.525	Not Significant
		Female	625	68.72	15.76			

From the results of table 8, insignificant difference was found in the mean study skills of male and female pupil teachers due to insignificant t-value (t = 0.525) at .05 level. In other words male and female did not differ much in their total study skills and except examination mastery, both male and female pupil teachers were having nearly identical study skills.

The reasons for the above results may be the routine work of the B.Ed. course where not much challenge is there for the pupil teachers.
Hence, hypothesis 2(h) was not accepted.
Results of the above study were similar to the results of **Abraham (1973)** and **Verma (2001).**

Study Skills and Urban Rural Difference

Table 9

Values of mean, SD and t-ratio to locate difference in the Goal Orientation Study Style due to Area differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
9.	Goal Orientation Study Skills	Male	545	9.32	2.40	798	.650	Not Significant
		Female	255	9.44	2.40			

From the results of table 9 insignificant difference was found in the goal orientation study skill of pupil teachers belonging to urban and rural areas due to insignificant t-value (t = 0.650) at .05 level. Further, not much difference was found in the mean scores of both the groups.
Therefore, hypothesis 4(a) was not accepted.

Table 10

Values of mean, SD and t-ratio to locate difference in the Activity Structure Study Style due to Area differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
10.	Activity Structure	Urban	545	9.32	2.40	798	1.59	Not Significant
		Rural	255	10.28	3.13			

As per the results of table 10, insignificant difference was found in the activity structure of pupil teachers belonging to urban and rural areas as t-value was insignificant at .05 level. In the mean scores also both the

groups did not differ much on activity structure.
Thus, hypothesis 4(b) was not accepted.

TABLE 11

Values of mean, SD and t-ratio to locate difference in the Scholarly Skills due to Area differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
		Urban	545	12.12	3.79			
11.	Scholarly Skills					798	.852	Not
		Rural	255	11.88	3.65			Significant

From the results as given in table 11, it was found that insignificant difference exists in the scholarly skills of pupil teachers belonging to urban and rural areas due to insignificant t-value (t = 0.852) at .05 level. Pupil teachers belonging to urban and rural areas also did not differ much in their mean scores on scholarly study skills.

Therefore, hypothesis 4(c) was not accepted.

TABLE 12

Values of mean, SD and t-ratio to locate difference in the Lecture Mastery Study Skills due to Area differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
		Urban	545	10.21	3.57			
12.	Lecture Mastery					798	.894	Not
	Study Skills	Rural	255	10.00	3.58			Significant

Results of the present study as given in table 12 indicated insignificant difference on lecture mastery study skills due to insignificant t-value (t = 0.894) at .05 level of significance. Also, there was negligible mean difference in the pupil teachers belonging to urban areas (mean = 10.25) and rural areas (mean = 10.00) in their lecture mastery study skills.

Therefore, hypothesis 4(d) was not accepted.

TABLE 13

Values of mean, SD and t-ratio to locate difference in the Text Book Mastery of Study Skills due to Area differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
13.	Text Book Mastery	Urban	545	11.89	3.57			Not Significant
						798	1.077	
		Rural	255	1.154	3.58			

It was noticed from the results of table 13 that insignificant difference exists in the text book mastery of pupil teachers belonging to urban and rural areas due to insignificant t-value (t = 1.077) at .05 level. Not much difference was also noticed in the mean scores of pupil teachers belonging to urban areas (mean = 11.89) and rural areas (mean = 11.54).
Thus, hypothesis 4(e) was not accepted.

TABLE. 14

Values of mean, SD and t-ratio to locate difference in the Examination Mastery of Study Skills due to Area differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significant
14.	Examination	Urban	545	9.05	3.69			Not
	Mastery					798	470	Significant
		Rural	255	9.18	3.82			

Results as entered in table 14 indicated insignificant difference in the examination mastery of pupil teachers belonging to urban and rural areas as t-value was insignificant at .05 level (t = 0.470). Both groups also did not differ much in their mean scores.
Therefore, hypothesis No. 4(f) was not accepted.

TABLE 15

Values of mean, SD and t-ratio to locate difference in the Self Mastery of Study Skills due to Area differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
15.	Self-Mastery Study Skills	Urban	545	6.73	4.41	798	.304	Not Significant
		Rural	255	6.83	4.12			

Insignificant difference was found in the self-mastery study skills of pupil teachers belonging to urban and rural areas due to insignificant t-value (t = 0.304) at .05 level. Pupil teachers belonging to urban and rural areas did not differ in their mean scores on self-mastery study skills.
Therefore hypotheses No. 4(g) was not accepted.

TABLE 16

Values of mean, SD and t-ratio to locate difference in the Study Skills (Total) due to Area differences

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significance
16.	Self-Skills (Total)	Urban	545	69.14	15.73	798	.688	Not Significant
		Rural	255	68.31	16.11			

On the variable of study skills (total) pupil teachers belonging to urban and rural areas did not differ significantly due to insignificant t-value (t = 0.688) at .05 level. Both the groups of pupil teachers obtained nearly identical mean scores. The reasons for the above results may be the routine curriculum of B.Ed. class which perhaps do not provide any challenging job for the pupil teachers of both the groups.

Hence, hypothesis No. 4(h) that there will be significant difference in the study skills of pupil teachers belonging to urban and rural areas was

not retained in the present study.

Academic Achievement and Sex-Difference

TABLE 17

Values of mean, SD and t-ratio to locate difference in the Cognitive styles of male, female, urban and rural prospective teachers

Vr. No.	Independent Variables	Group	N	Mean	SD	df	t-value	Level of Significant
17.	Cognitive styles	Male	175	16.60	5.19	798	1.13	Not Significant
		Female	625	17.13	5.59			
	Cognitive Styles	Urban	545	17.56	5.60	798	4.17**	0.01 Level
		Rural	255	15.83	5.12			

** Significant at .01 level

From the results of table 17, it was revealed that insignificant difference exists in the cognitive styles of male and female prospective teachers due to insignificant t-value (t = 1.13) at .05 level. Thus hypothesis 1 was not accepted.

Further, significant difference was found in the cognitive styles of urban and rural prospective teachers due to significant t-value (t = 4.17) at .01 level. From their mean scores it was found that prospective teachers belonging to urban areas had preference for field independent style whereas prospective teachers belonging to rural areas had preference for field dependent style.

Thus hypothesis 3 was retained.

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